

Intro: In this lab, I will be testing if changing the size of the body(sun) will affect the orbit of the planets. I will conduct this experiment by changing the size of the sun and slowly increasing it until dramatic results. If I change the size of the body(sun) then the planet

Hypothesis: If I change the size of the body(sun) then the planets' orbit will increase because the sun has a bigger radius making it longer to go around.

Procedures: I entered the code, and changed the size, starting at 10, bigger and bigger. Then I would go back to Greenfoot, reset it so the game is updated to the correct size, and test it. I did this multiple times to test my theory.

Data:

Test #	Size of sun	Result
1	10	The planets were quite small, and seemed to have a big orbit around the sun.
2	30	The orbit seemed to decrease slightly.
3	60	The size of the planet is bigger, and the orbit continues to get smaller.
4	100	The planets were very big, so the diameter of each planet made it look like the orbit was shorter, but it is just because the size is bigger.

Analysis: My hypothesis was incorrect, the orbit of the planets around the sun do NOT change, but only seem to because the size of them increased. The bigger the size, the more space it takes up, making the orbit look smaller.

Conclusion: In the end, if you wanted to change the size/length of the orbit, you would have to change something else in the code because size doesn't matter.

Include drawing

