Environmental Impact

This is a project based on GUI—Graphical User Interface. Examples of GUI are buttons and sliders, both of which are used in this project to allow the user to interact with the animated planet and its inhabitants via the sliders and button. The planet and its inhabitants can also be rotated by clicking and dragging within a portion of the window. As a zero-waste vegan, the topic of environmental impact is an important one for me, and so I wanted to create a form of advocacy through code. Some of the most significant and easily changeable lifestyle factors contributing to the current climate crisis are meat consumption, dairy consumption, plastic and disposables use, a lack of recycling, and incorrect recycling. On the flipside, the easiest and most effective ways to reduce your carbon footprint is to avoid meat, dairy, plastics, and single-use products. There are numerous resources online to get you started, and it’s fun!

The nature of this code requires a lot of math and trig to navigate the 3D space; math and math-based science courses consistently lower my GPA, but luckily there are resources and discussion boards online to find equations useful for coding. For example, generating the inhabitants (cow, tree, turtle) onto the edges of the planet requires using trig to calculate the angles of a 3D sphere, as well as orientating them all to stand upright relative to the surface (normalizing an object tangent to a curve). Controlling how high and low the slider handles can be dragged are another example of using math. On the more artistic side, the planet’s appearance was created myself using brushes in Inkscape, which was imported as an image that was applied as a texture to the sphere. All the inhabitants are imported as 3D models found online. The planet and its inhabitants rotate automatically using a looping function but can also be adjusted by the user because of an imported library.