**Physical Scene**

A pen on a book

Description automatically generated **Initial Planning**

To begin this project, I set up and photographed a physical scene to be used as the basis for my 3D-rendered scene. My setup included a blue composition book, a black pen, two black guidebooks, a bigger brown book, an empty trail mix container, and a white ceramic coffee mug, all sitting on a marble table. My scene also had a chair in the background that I decided against depicting. Initially, I was also going to exclude the windows, but I chose to represent them as the light sources for the scene. Following this, I then created a checklist to use as a guide for my resource gathering and development. This checklist includes the individual objects in the scene, the shapes required to create the objects, the material that each object would be made out of, and textures for each object.

**Resource Gathering**

After finishing my initial plan, I began searching for textures. I started with Google and utilized the recommended search terms provided in the supporting materials, but quickly found that to be unreliable in terms of finding high-quality texture images for my specific objects. I did a few experiments with AI image generation, but I also found this to be wildly inconsistent for making seamless textures. Following that attempt, I purchased a cheap repository of simple textures an artist created. Despite finding two textures I found useful, the majority of the textures were not helpful. In the end, I resorted to taking close-up pictures of some of the objects I needed textures for, such as the composition book. I feel that the majority of the textures I settled on are inconsistent, but they work for an initial render.

**Development**

This project was developed over the course of multiple milestones and weeks, making its development timeline relatively inconsistent. For example, camera movement and speed controls were added and completed very early on. Because of this, I will be reframing my development timeline as if it occurred during this week due to the fact that I touched on every part that was under development previously. The first object that was created was the table, which I used a plane for. This object will also use a marble texture and a marble material that I created. Next, the coffee mug was created by combining a tapered cylinder, a normal cylinder, and a torus all together. The mug uses a ceramic material I created and is also textured with a ceramic image. The blue composition book was simplified into a box. This object’s texture is a close-up image of the physical book and uses a dull plastic material, which I actually ended up creating after the fact because I felt the book was too shiny with the normal plastic material. The next object I created was the pen. This is also created with three shapes, this time being a cylinder, a tapered cylinder, and a cone. This pen was the most frustrating object to create, as lining up each piece of the pen was difficult. The pen uses a black plastic texture I was able to find online and the normal plastic material. The three books in the background were the next objects to be designed. Each one was also simplified to just a box, rotated to match the physical scene. The books all use a paper material that I wrote along with two textures. The top two guidebooks have a black book texture, while the bottom one has a brown book texture. The trail mix container is simply a box with a cylinder on top. The texture of the container is a red image meant to represent the label, and the material is also paper. The lid uses the same black plastic texture and plastic material as the pen. Finally, the windows in the background are the light sources for the scene. Each window has two light sources: one primary bright source and one secondary diffused source to represent sunlight. The material for the windows is plastic, and the texture is white plastic because of the shades in the physical scene. Overall, I found finding good textures and being able to properly work with them to be the most difficult part of this project. For example, I wanted to texture the trail mix label so that it was only wrapped around the middle of the box, but I was unable to do so in a timely fashion and abandoned the idea. Regardless, I am happy with how my final scene turned out, even though I wanted to increase the quality and quantity of its finer details.