"A Moment of Matcha" by Sureen Heer

Fulfilling Project Requirements:

1. Leveraging the power of ray tracing:
   a. My scene leverages Blender Cycles' ray tracing with area lights and an HDRI environment to create soft, physically accurate shadows and warm, natural illumination. The ceramic matcha bowl's material uses roughness variation and subtle reflections that capture surrounding colors, producing visible color bleeding. The steam is built with volumetric rendering, showing light scattering, depth, and an organic, sculpted shape. The metal spoon reflects the HDRI ceiling for added realism, while the liquid and table surfaces use bump mapping to enhance depth and texture. Together, these lighting and material choices demonstrate ray tracing effects.
2. Main geometry from scratch:
   a. The matcha chasen, ceramic bowls, liquid, steam, and table were modeled entirely from scratch, as these assets were the primary focus of the scene and entail more than half of the scene's geometry.
3. UV mapping and texturing from scratch:
   a. UV mapping: The liquid matcha surface and table was UV unwrapped myself.
   b. Texturing from scratch: Created the texture for the steam and ceramic bowls via procedural generation.
4. Blender/Cycles advanced feature:

      a. Depth of Field: The focus object is the ceramic bowl with matcha liquid.

      b. Volume Rendering: This is used to create the steam coming from the bowl with matcha liquid.

5. Compositing and post-processing:

      a. No compositing or post-processing was used.

6. Citations: See Below

Contributions:

This was a solo project so I did all the modeling, texturing, shading, lighting, simulations, rendering, composition, etc.

Assets:

1. Chasen:
   a. Tines (created using Bezier Curves)
   b. Handle (created using Mesh Cylinder)
   c. Black String (downloaded)
2. Ceramic Bowls (created using Mesh Cylinder)
3. Mound of Matcha Powder (downloaded)
4. Metal Spoon (downloaded)
5. Matcha Liquid Surface (created using Mesh Plane)
6. Bag of Matcha in background (downloaded)
7. Steam (created via volumetric rendering)
8. Table surface (created using Mesh Cube)
9. Background (HDRI)

Citations:

1. HDRI: https://polyhaven.com/a/lythwood_lounge
2. Asset 3D Models:
   a. Chasen Black String:
      https://www.blenderkit.com/get-blenderkit/03a1d5fd-4793-43fc-b009-df7a13b78f8e/
   b. Matcha Bag:
      https://sketchfab.com/3d-models/day-204-everyday-matcha-3d9249d0828c44a2848f36969ff76bff
   c. Mound of Matcha Powder:
      https://sketchfab.com/3d-models/matcha-95d76f825957444faed82e148c6cc1d5
   d. Metal Spoon:
      https://www.blenderkit.com/get-blenderkit/c14cb2b4-80c4-4e02-8667-9debd8ce7d2f/
3. Textures:

      a. Chasen Handle:
   https://www.poliigon.com/texture/slip-match-oak-wood-veneer-texture-beige/7760

      b. Chasen Tines:
   https://www.poliigon.com/texture/slip-match-oak-wood-veneer-texture-beige/7760

4. Images for UV Unwrapping and Textures:

      a. Matcha Liquid:
   https://www.google.com/url?sa=i&url=https%3A%2F%2Fmx.pinterest.com%2Fpin%2F1407443628944229%2F&psig=AOvVaw3WvxhnEGaNAy8qiYGcC5Yd&ust=1755331546006000&source=images&cd=vfe&opi=89978449&ved=0CBUQjhxqFwoTCKiG4OKtjI8DFQAAAAAdAAAAABAE

      b. Table: https://polyhaven.com/a/wood_cabinet_worn_long

5. Tutorial:

      a. Making ceramic texture: https://www.youtube.com/watch?v=QKu1bIHaLfs