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DESN34665
Interaction Design: Special Topics

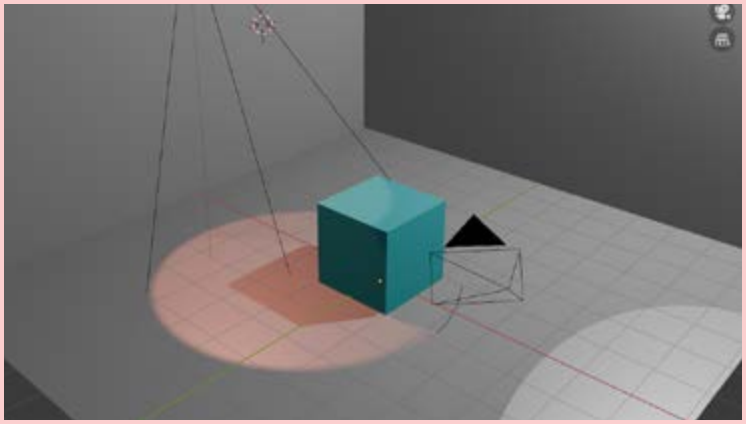
Project 2: Prototyping Test, Reflect, Repeat

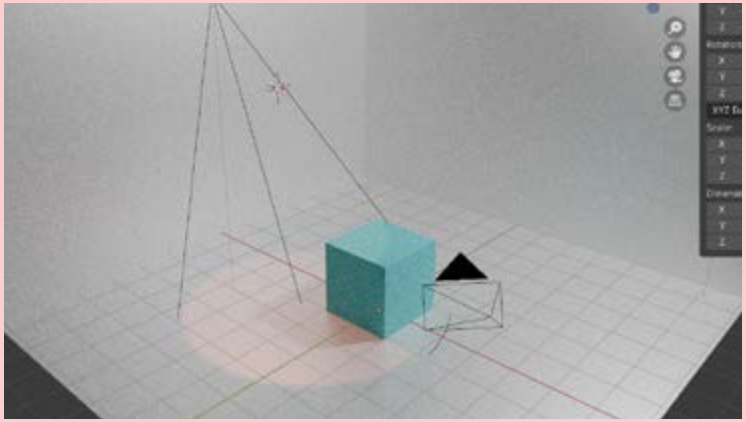
Design Statement

This 3D modeled spread of candy is the result of a series of explorations into rendering in Blender as well as refining and expanding my 3D modeling skills and knowledge. Within these explorations I learned gained important skills in key areas of Blender, such as camera positioning, use of render engines, node capability, colour ramping and mapping, and realistic textures and materials. The choice of candy as a subject matter is to the wide variety of complex colours, shapes, sizes, and textures available; therefore allowing for all my newfound skills to be showcased in one cohesive rendered scene.

Tutorials and Explorations

Rendering Basics



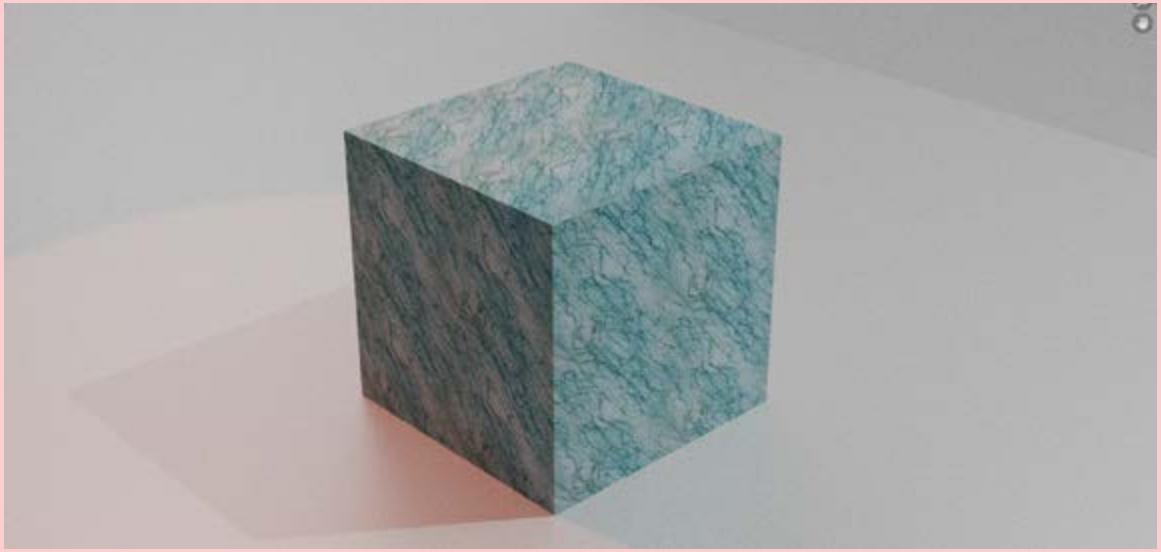


Top: Cube scene running on EEVEE engine
Bottom: Same cube scene but running on Cycles engine.

My **Plan** to begin learning about rendering was to watch tutorials from The CG Essentials, the YouTube account I used to learn the basics of Blender in Project 1.

Moving into the **Action** step I followed the most basic tutorial and created a simple cube with a marble texture, lit by two lights: one sun and one red spotlight. I also researched the difference between the different types of lights in Blender (Sun, Spotlight, Point, and Area) as the tutorial did not really go over the differences.

I **Analyzed** that the most important thing I learned from this tutorial was the difference between the EEVEE render engine and the Cycles render engine, which produce drastically different outputs. I found that EEVEE was much easier on my computer and therefore much faster, but did not produce nearly as realistic results as Cycles. My overall **Conclusion** from this was to use EEVEE for all my modeling and process, then switch to Cycles when it was time to render.



Cube scene rendered from Camera view in Cycles (note that this is a screenshot of the render in progress so as to not have to wait the long time for the render to fully load.)

Tutorials and Explorations

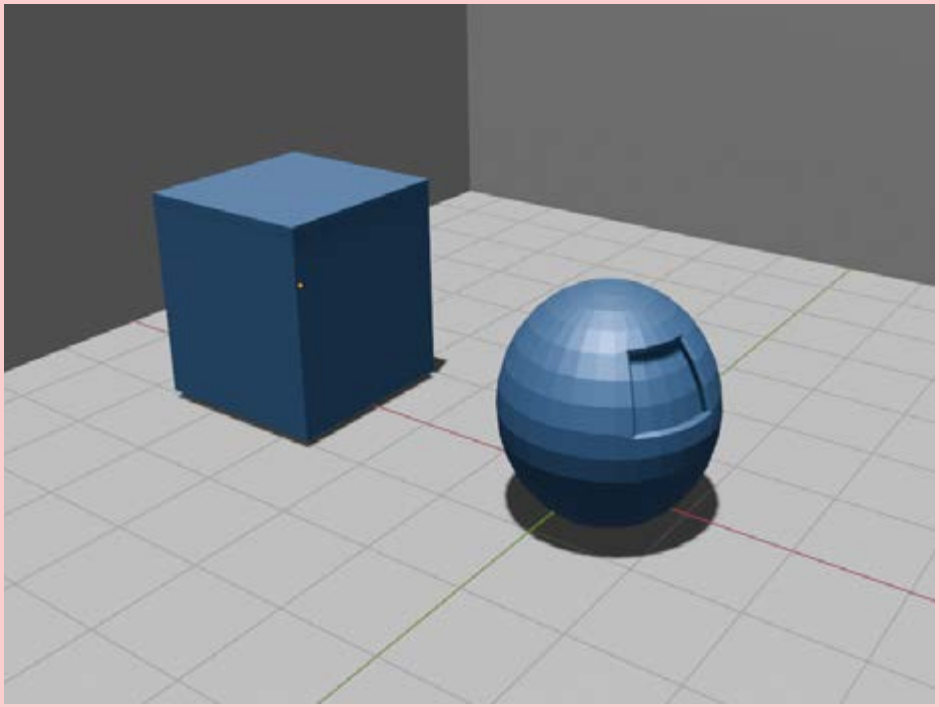
Rendering Basics

My next **Plan** was to figure out why the cube in my last rendering was not showing metallic texture despite the fact that I increased the Metallic setting in the materials panel.

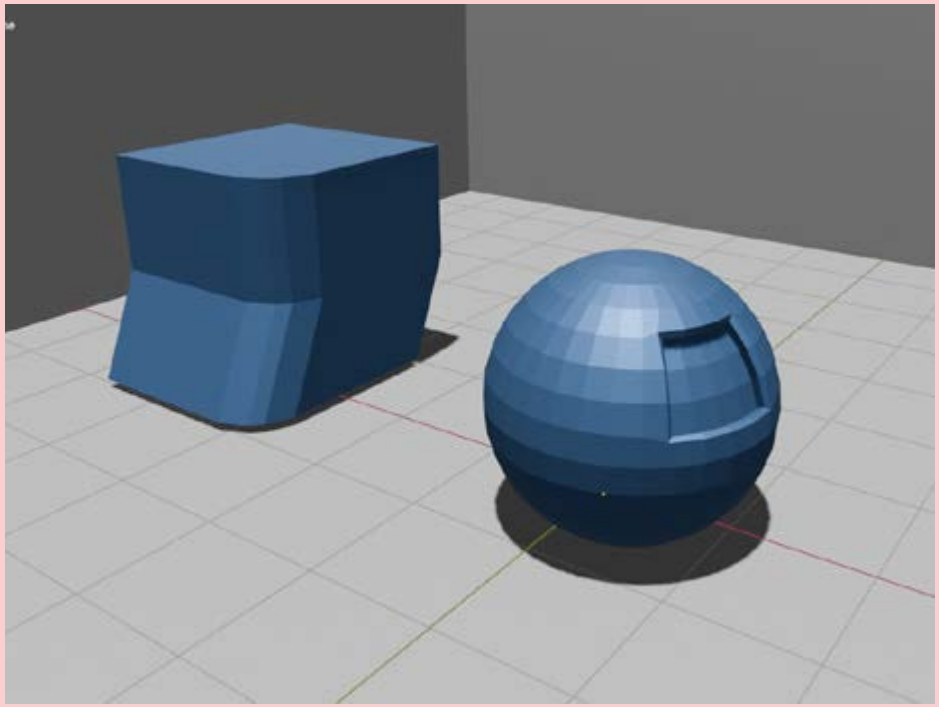
In my **Action** I tried a variety of different material settings on different shapes, and **Analyzed** that the reason the metallic texture was not showing on the cube was because the cube did not have any curves. When I used a metallic material on a sphere it showed.

To prove this I added a few steps on the corner of the cube to make it rounder, and saw that it worked and showed the metallic texture.

From this I **Concluded** that in the rest of my modeling if I want an object to look like metal I have to pay attention to make sure it has enough curves to be seen.



Sphere and cube with metallic texture.



Sphere and rounded cube with metallic texture.

Planning my Final

Choosing a Project

From this tutorial, and reviewing the other tutorials I found both on The CG Essentials channel and online in general I found that most of rendering is about placement, lighting, and materials, that requires practice more than anything else. So at this point I felt that with my new knowledge about lighting and render engines in blender that it was time to move onto activities to practice. However before I began my activities I wanted to choose what my final project was going to be, this way I could tailor my activities towards gaining the skills needed.

Star Trek TOS Bridge

My first idea, given that lighting is a big part of rendering, was to model and render a room with complex lighting. The room I decided on for this was the bridge of the Enterprise from Star Trek The Original Series, given as it has lots of different colorful light sources. However I **concluded** that trying to render a full room would force me to spend most of focus on modeling instead of lighting and rendering like I wanted.

The Enterprise bridge from Star Trek The Original Series

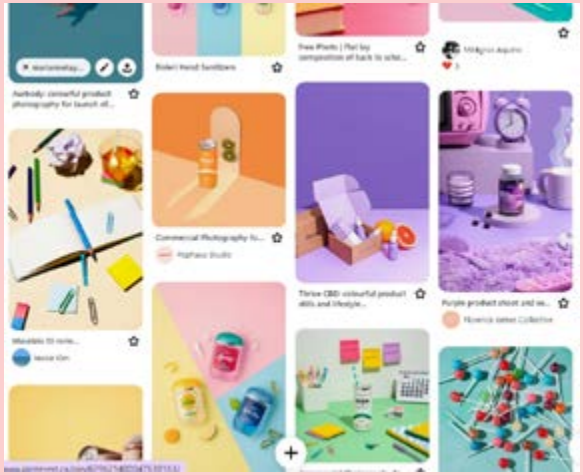
Mood Lighting

Given my conclusion on the last idea I decided that in order to focus more on lighting I would download a model of a room and instead make a few different renders, each with different lighting to experiment with how much lighting effects a scene. However I **concluded** that this would only allow me to practice my lighting skills and not placement or materials like I wanted.

Kitchen Model I downloaded from Blenderkit

Product Photography

My next idea, and the idea I went with, was product photography. This would allow me to focus on item placement, lighting, and realistic materials, while also giving me the opportunity to refine my modeling skills which was a side goal for this module. Next I just needed to decide what I was going to model.



My Product Photography board on Pinterest

Planning my Final

Choosing a Subject

Next I needed to decide the subject matter for my product 'photography'. To do this I went to Pinterest and looked at lots of examples of product photography. I spent awhile compiling examples that I liked in my Product Photography board while taking note of the subject matter featured in these images.

Skin Care

In my exploration I found that a lot of the product photography examples I found were for skincare products. In Analyzing these images I Concluded that the reason for it being so popular is because skincare products are often in clean, shiny, and aesthetically pleasing packaging which make for good scenes.

Example of a skin care product scene I found on Pinterest.

Stationary

I also found that stationary was a popular subject matter. In my analysis of the images I concluded that the reason for this differed from the skin care scenes. Stationary scenes are popular not because of textures, but because of the wide variety of interesting shapes available, such as pens, pencils, notebooks, erasers, calculators, etc.

Example of a stationary product scene I found on Pinterest.

Candy

This subject I did not get from searching Pinterest, but instead from looking at objects in my house. I saw both a bag of M&Ms and a container of TicTacs and thought that the sheer amount of pieces in each item would be interesting for a render. This made me consider more candy, and found that candy comes in a very wide range of shapes, colours, and textures, combining the things I liked about the skin care and stationary subjects. From there I went back to Pinterest to look at product photography examples of candy.

Example of a candy product scene I found on Pinterest.

Activity 1

Sports Scene

For my first activity I **Planned** to use pre-made assets instead of modeling objects, this was so that in this first test of making a scene I could focus on lighting and placement instead of modeling. Looking on Blenderkit I found an asset of a baseball, and decided from there to look for collect more assets relating to sports because just as with candy, sports equipment has lots of interesting shapes, textures, and sizes.

In my **Action** I created a simple background of walls, a floor, and a small platform for some objects to stand on; something I saw in my exploration of product photography. For the walls, floor, and platform I originally wanted to use a material that looked like a gymnasium floor, but could not find one. Next I looked for a model of some bleachers as would be seen at a sports game, but could also not find one I was happy with. Finally I decided on concrete for the 'tough' look often associated with sports.

Next I experimented with the positioning of the items. At first I put all the smaller items on the platform with the idea that they would be seen easier, but concluded that it both didn't make the scene look very natural as well as wasn't very visually interesting.

Once I was happy with the positioning I moved to lighting. Along with a Sun light placed above the scene to provide general light, I also place a spot light to either side of the scene, one red and one blue in order to create interesting highlights and shadows.

In **Analyzing** the final image I **Concluded** that the things I liked least about my scene were the dim lighting and the unrealistic texture of the walls, floor, and platform. I planned to actually model a more realistic tex
texture like in this activity.

Left and Middle: different iterations of item placement
Right: Final render

Activity 2

iPhone Advertisement

For this activity I continued to use pre-made assets as I **Planned** to focus more on lighting and materials, so in my **Action** I found a model of an iPhone and created a simple iPhone advertisement-esque scene with a simple solid background. Then I played around with the materials used, changing the color of the phone and editing the Roughness and IOR settings until the screen and back of the phone had a realistic reflection. At this point I decided that I wanted a fun image to reflect off the screen of the phone and add to the ambiance of the scene. To do this I explored HDRs. I found one I liked on Blenderkit of a city at night and researched how to implement it in my Blender scene.

HDR of city at night that I used.

However when I moved into Cycles to render the image the HDR did show in the reflection. I did a lot of research trying to figure out why, including changing brightness settings, lighting, and reflection settings on the phone, but ended up finding that I simply didn't have the scene facing the right way for anything to reflect off the screen. So I rotated the scene until it faced some lit-up buildings and the render worked.

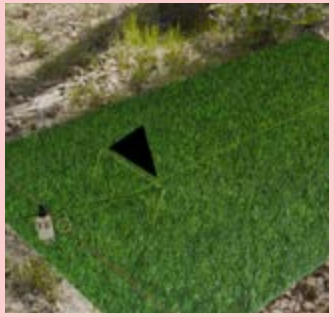
From here I **Analyzed** the realistic textures and lighting I was able to achieve, as well as how much the HDR improved the scene, and **Concluded** that I was in a good enough place to actually model for my next activity.

Top: EEVEE engine showing reflection on phone screen
Bottom: Cycles engine not showing reflection on phone screen.

Activity 3

Skin Care Serum

1: Model of the bottle and liquid;
2: Bottle and liquid with materials applied;
3: Grass image texture;
4: Large plane of Hair Particle grass;
5: Final image.



Taking inspiration from my exploration of product photography, I **Planned** to model a bottle of skin care serum. Remembering my struggles of modeling realistically from Project 1, in my **Action** I found a reference image online and then modeled a simple bottle of serum, making sure that it is hollow on the inside so I could add liquid. Next I just used a simple cylinder shape and placed it to the side for now so I could see how the texture looked outside the bottle to ensure it was realistic.

Next I used the built in glass texture available on blender and changed the material of the bottle to a simple clear glass. Since I could not find a liquid texture, I did research into how other people went about creating liquid, and found that most people start with the glass material then modify it to change opacity, color, and refraction as needed. So I used the same glass texture for the liquid, but played around with the settings until I got the look I wanted.

I chose green for the liquid because I decided I wanted to go with a nature theme for the skin care. Fitting with theme I then explored grass materials I could use for a floor, planning to use a forest or grassy hillside HDR for the background. In doing this however I found that because grass is so 3D that a simple material did not look right. To fix this I followed simple video tutorial on using Hair Particles in Blender to make grass. The issue with this however is that the angle I wanted to take the render at meant that you could see very far into the distance requiring a very large amount of grass, which was hard on my computer to render. So to fix this I added grass walls a bit behind the bottle (it did not look perfect, but for the purposes of this activity it worked).

In rendering the final image I found that I did not like how the glass looked and wanted it to be foggier. I could not seem to achieve this in changing the material settings, so instead I found one I liked on Blenderkit.

In my **Analysis** of the image I **Concluded** that with my improvement in lighting, choosing camera angles, and realistic materials that I was ready to move onto my final product.

Process

Planning

In order to **Plan** my final I started by drawing a quick sketch of what types of candy I wanted to include and how I wanted to place them on the plate. This allowed me to avoid having to fiddle around in Blender later on with the placement of the items.

Chosen Candies

- M&Ms: I included these both because they were my original inspiration for the candy idea, but also because instead of being one solid object, the M&Ms are lots of little objects. They also allowed me to showcase my skills in creating glass materials for the bowl they would be in.
- Chocolate bars: I chose these because it would give me an opportunity in both modeling and making materials to try and nail down that sorta-crinkly wrapper that is both dull and reflective.
- Suckers: I chose these because it would allow me to experiment with creating a material that is translucent, allowing another object to be seen inside it (the candy part vs the stick part).
- Hard Candies: I chose the hard candies because I wanted the challenge of modeling and creating a material for the super crinkly, thin, and almost transparent wrapper.
- Candy Bracelet: I included the bracelet because just like the M&M's the bracelet is really a whole bunch of objects in one. It would also allow me to focus on rougher textures in contrast to the mostly shiny textures of the previous candies.
- Candy Canes: I included these not only because of the interesting shape but because unlike the previous shiny candies, they are not translucent, but solid, another challenge for material making.
- Candy Corn: I chose these for also the same reason as the M&Ms and the candy bracelet: lots of repeated small items. I also chose it as the slight color gradient provided a challenge in creating smooth color changes instead of stark solid lines of colour as I only have experience with.
- Candy Hearts: I chose these as sort of a filler item to take up blank space on the plate. They would also give me more opportunity to play with rough materials, and allow me to learn about adding text.

Process

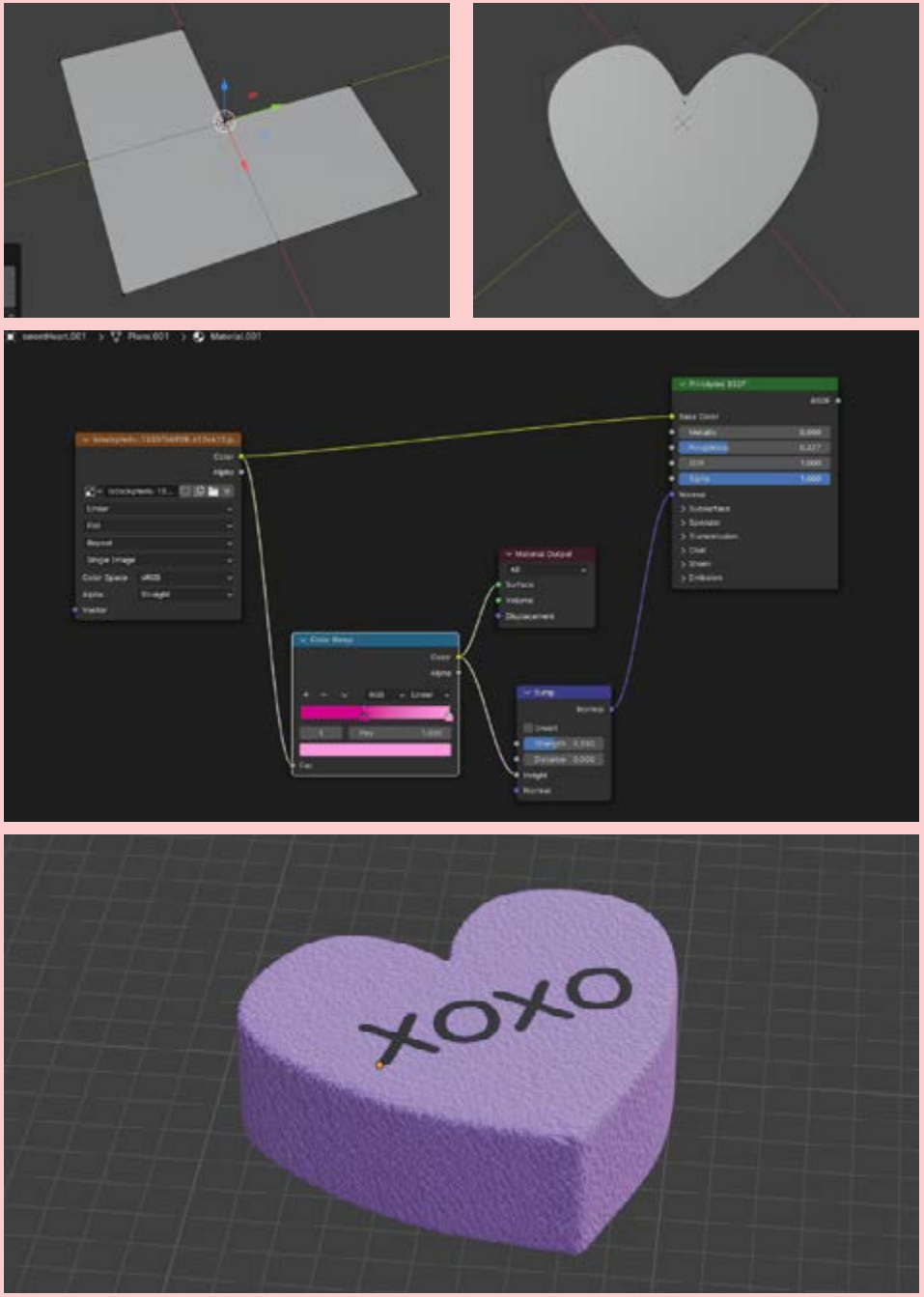
Candy Hearts

I **Planned** to start with the Candy Heart as I believed it would be the simplest. In my **Action** I started with a simple plane then moving one corner to the middle to create an 'L' like shape. From there I extruded the shape, and turned on a Subdivision Surface modifier, adding more edge loops and dividing the surface in order to get the rounded shape I wanted.

My original Plan for the texture of the Candy Hearts was to just use an image texture of a bumpy surface. However in doing so I was not happy with the result and instead did research into how other people have gone about creating a bumpy surface. In my research I learned about Bump and Color Ramp nodes, as well as the concept of nodes in Blender. Following a video tutorial, I was able to apply my image texture to act as a map for light and shadows on the object making it look much more realistic.

Later on in the process I also added an Object Info node and added more colors to the Color Ramp in order to randomize the color (within a range of my choosing) for each individual Candy Heart.

For the next I originally had Planned to just use an image with text in it as the material, but now with the additional nodes it would not work. Instead I simply added a text object and changed the font and size to match what I wanted, then place it so it was sitting directly on top of the candy.

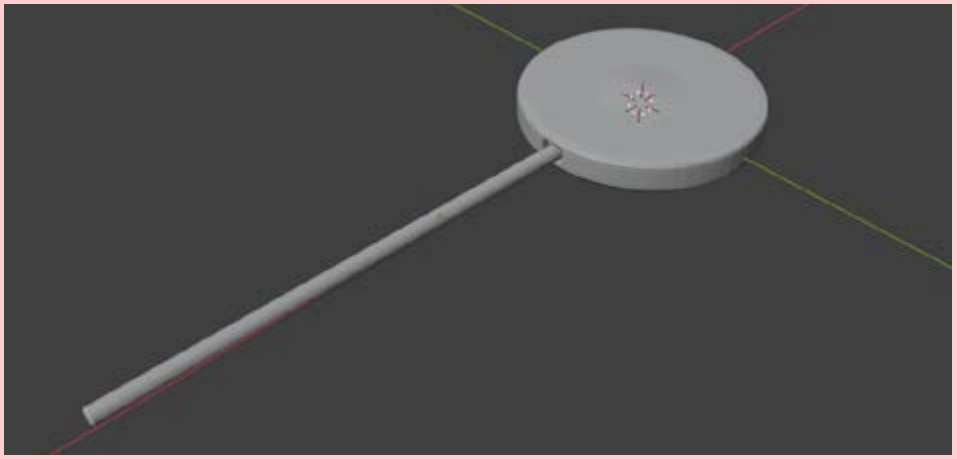


Top: Constructing and shaping Candy Heart
Middle: Nodes used to for Bump, Color Ramp, and Image Texture
Bottom: Final Candy Heart

Process

Suckers

Next I did the sucker as it would also be very simple. I originally **Planned** to just make a short cylinder with a small but deep hole in one side for the stick, but in **Acting** on that plan I found that it didn't look right. So instead I just used a normal cylinder without any cutouts and placed the stick inside it.



Getting the texture right was also fairly simple. I just used the same glass material built into Blender then modified some of the settings (such as Alpha and Roughness) in order to better match the translucent texture of suckers in real life.

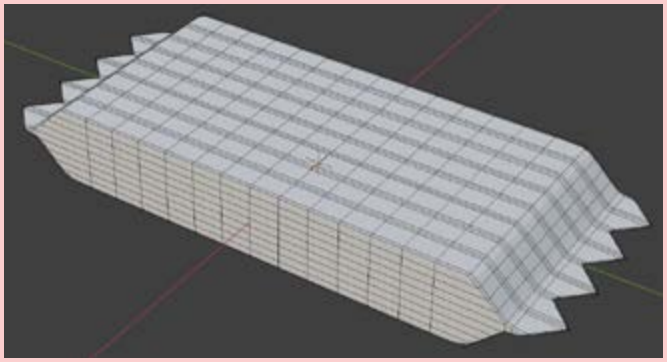
In **Analyzing** the result of the sucker I realized that the material used would also be perfect for the Hard Candy, given as they are the same substance in real life. So I **Concluded** to just reuse the material.

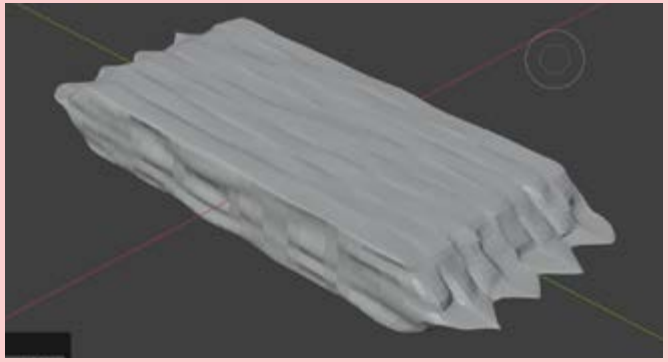
Top: Sucker with cutout for stick
Bottom: Final sucker

Process

Chocolate Bars

Left: Un-sculpted model of chocolate bar
Right: Model with Random Mesh Filter applied
Bottom: Final chocolate bar





Before I started the chocolate bar I Planned to do research on how to make it looks crinkly without having to go in and individually move each face. I found a video tutorial on how to use the Mesh Filter on Random in Sculpt Mode which modifies the faces in rotation and extrusion to add noise.

With this in mind I started with a simple rectangle then extruded and vertically scaled some of the faces on the sides to make the edges of the wrapper. From there I used the Random Mesh Filter until I got a crinkly looking wrapper.

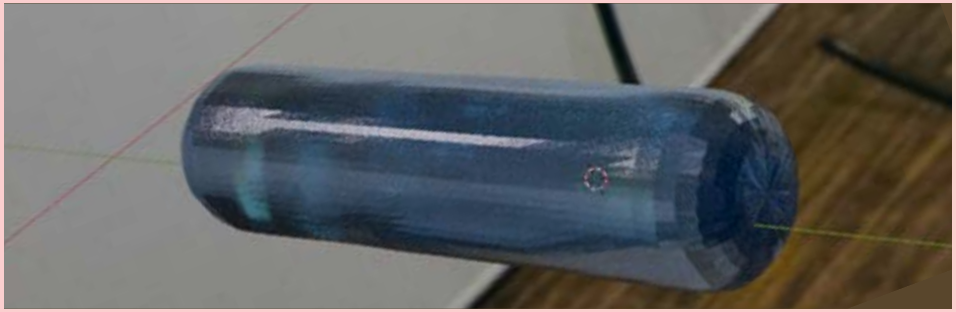
Because the candy wrapper I wanted to make was opaque I just used the basic Principled BDSF material that Blender provides then modified the Roughness and IOR settings until the wrapper was shiny but not too shiny.

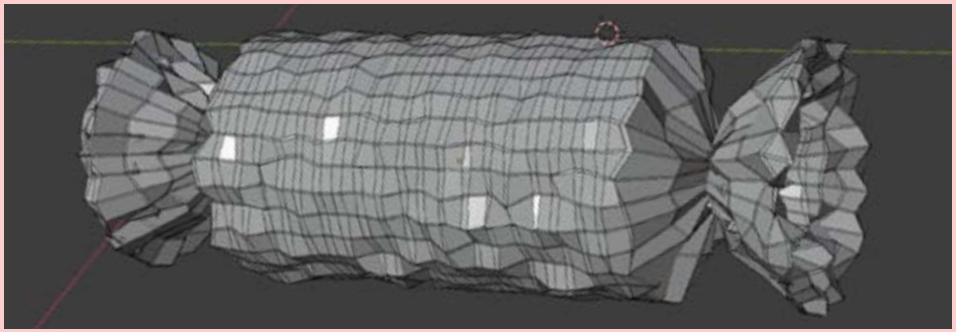
Process

Hard Candies

Just as I had Planned while making the suckers, my Action for the candy part of the Hard Candies I just made a simple cylinder with slightly rounded ends and used the same sucker material.

The wrapper was the harder part. I began by making another cylinder just slightly larger than the candy part, then extruding the ends while creating and scaling edge loops in order to make the wrapper look like it was tied on either end. Then using the same Random Mesh Filter as the chocolate bar, I randomized the faces in order to make the wrapper look crinkly. At this point I tried adding a Subdivision Surface modifier to make the wrapper less sharp, but found that I liked it better without the smoothing.

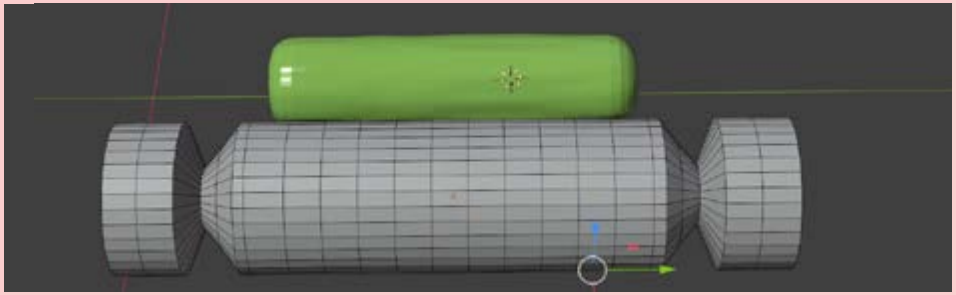


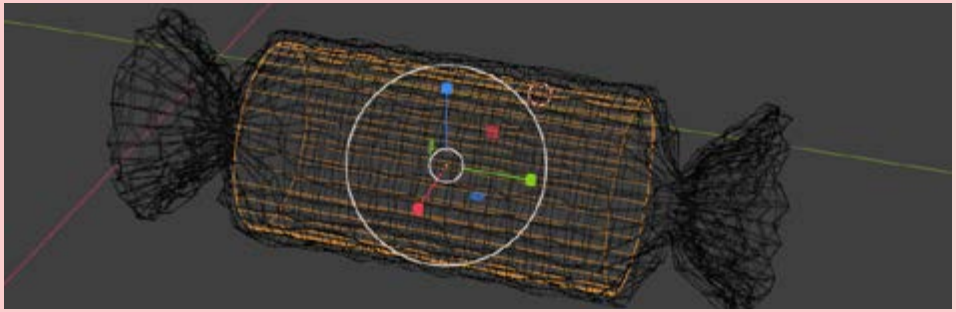


Next I followed this video tutorial to learn how to cut shapes out of objects, and created a space in the middle of the wrapper model for the candy.

For the material I started with the basic solid color material and then lowered the Alpha almost all the way to make it nearly transparent. Then I turned the Roughness all the way down as well as slightly raised the IOR and Metallic settings to give it that shine and reflection.

In my Analysis of the shape and texture of the Hard Candies compared to their real life counterparts I Concluded that they turned out quite realistic, and that the Random Mesh Modifier is a powerful tool for creating realistic natural-looking shapes.





Process

Candy Canes

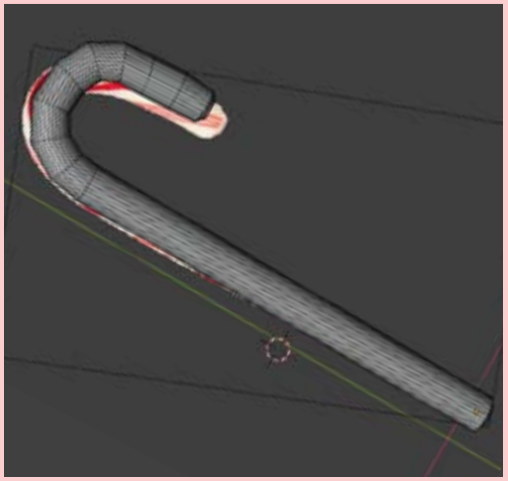
Knowing my troubles with accurately modeling objects with interesting shapes, I **Planned** to use a reference image to model the Candy Cane. In my **Action** I started with a simple short cylinder then continually extruded and rotated each extrusion following the shape of my reference image until the Candy Cane was done.

For the color I knew going into it that I would have to do research in order to get that wrapped swirly color pattern; it was not something I could achieve with simple edge loops. In mt research I found a video tutorial on how to achieve this effect using Un-Subdivide in the Decimate modifier, which joins the faces in a way that the wireframe is made of diamonds, allowing then for face selection to be used to color the object.

For the material I used the basic solid color material and just lowered the roughness to make the candy cane appear more smooth and shiny.

In my **Analysis** of my process I found that not only in making the Candy Cane, but for most of the objects so far that I have had to use video tutorials and learned about Blender functions and tools I had no idea about. I **Concluded** from this that I should spend some time in the next module taking a deep dive into Blender tools and functions beyond the basics.

Left: Following the reference image to make the shape
Right: Using the Un-Subdivide Decimate modifier
Bottom: Final candy cane



Process

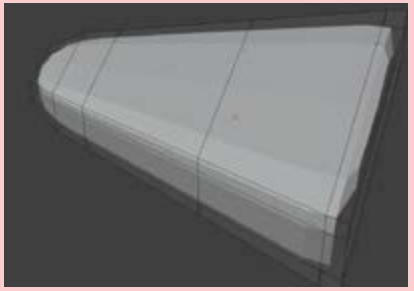
Candy Corn

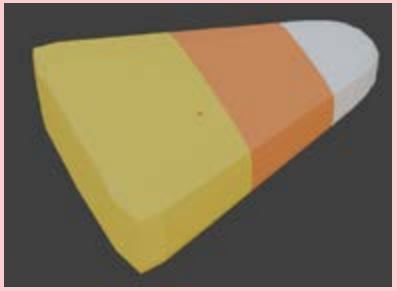
Following my **Plan** for the Candy Corn I made sure to create edge loops in the model where the color would change, this was I could apply different colored material per face to create the stripe effect. I did it this way even though I knew that this would create sharp lines between the colors I thought I might be able to find a modifier to blend the faces and colors. However in my research I found a video tutorial on how to apply gradient textures using a Color Ramp Node so I tried that instead. The only issue I ran into is that when I applied the gradient it blended vertically instead of horizontally. In examining the node to figure out how it works I was able to change the axis which it blended on and create the blended Candy Corn look.

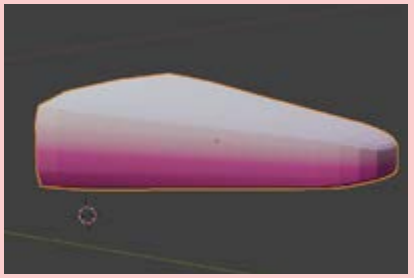
While I was originally not planning to add any texture, given that Candy Corn is pretty smooth, I found that my model looked too smooth. So, using my recently gained knowledge of Color Ramp Nodes I was able to add and connect a Bump Map and Image texture to give the Candy Corn a bit of bump so it wouldn't look so smooth.

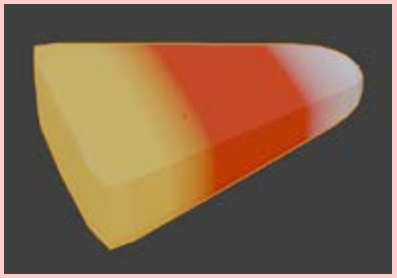
In my **Analysis** of my process in making the Candy Corn, specifically figuring out how to connect the additional nodes without having to watch any tutorials, I **Concluded** that I may have a greater understanding of Blender than I thought, and that in the future I should try to solve issues on my own first instead of relying on the online community.

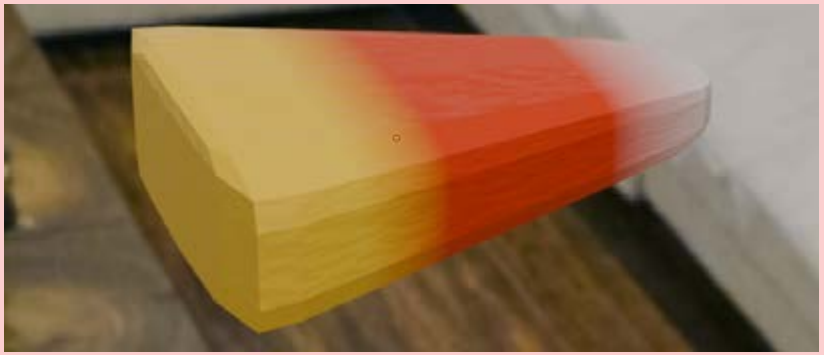
1: Candy Corn basic model; 2: Candy Corn with sharp color changes;
3. Original vertical gradient; 4: Horizontal gradient;
5. Final Candy Corn; 6: Nodes used for Candy Corn material and texture.











Process

Candy Bracelet

My plan for the Candy Bracelet was to use Array and Curve modifiers to multiply a single candy charm along a path. However I found that in doing so that the Curve modifier warped the shape of the charm.

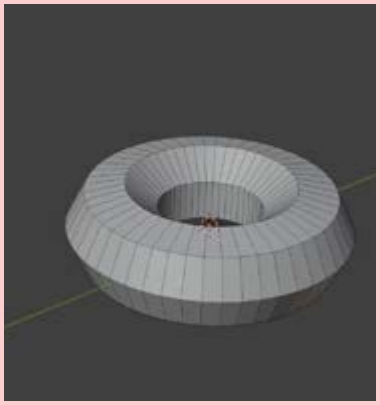
In doing research into why this happens and how to avoid it I found a video tutorial on how to make use of Parent objects in order to keep the desired object un-warped. By making a small plane (in my case the small purple triangle under each charm in Image 3) and choosing that plane as a parent object to the charm and using the Array and Curve modifier on the plane, the plane will take the warp of the modifiers while the charm just moves and rotates along with the parent, therefore staying its original shape.

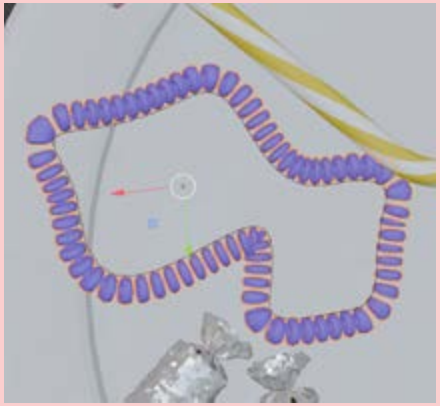
A problem I came across in doing this as that the charms were rotating strangely along the curve in a way I had never seen. After trying to solve the problem on my own by recreating the objects and curve, then rotating the parent object a different way, I turned to research and found that my problem was that my objects were at different rotation and scale settings, and that setting them all back to a value of 1 made it work properly.

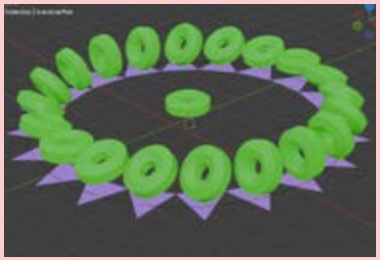
Next I used Color Ramp and Bump nodes to apply a rough texture, and added in an Object Info node to make each charm a random color.

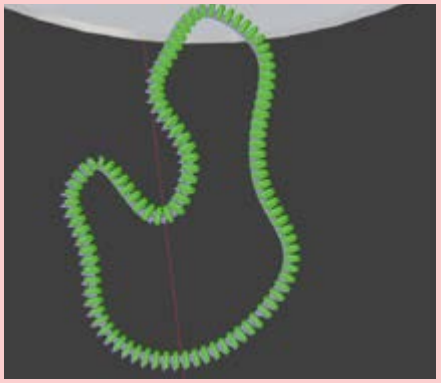
To make the string I simply duplicated the curve I used as the path for the charms and added Depth to make it 3D.

In my Analysis of this process reinforced a previous Conclusion that there are many tools and functions in Blender that I don't know about (in this case making sure the rotation and scale values were set to 1) and that taking a deep dive would be beneficial.









(Top to bottom, left to right)
1. Model of candy charm
2. Charm being warped by modifiers
3. Charms rotating strangely
4. Bracelet with rotation problem fixed
5. Bracelet with random color node added
6. Close up of charm bump texture

Process

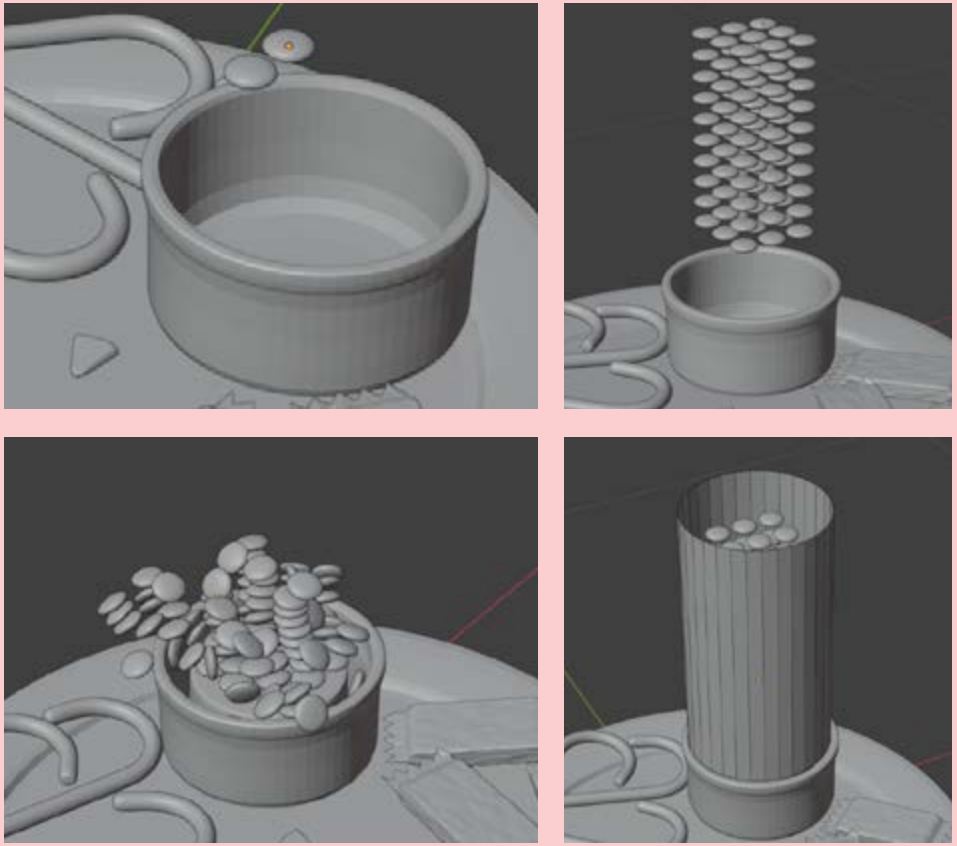
M&Ms

For the M&Ms my **Plan** was to avoid having to manually place each one by learning about physics in Blender; that way I could not only avoid all the tedious manual placement but also have the M&Ms placed much more naturally.

Following a video tutorial I learned the basics of physics, including Rigid Body, Mass, Collision, Sensitivity, and Passive vs Active settings. I also learned about scene settings including Substeps and Solver Iterations. In order to test that I did everything right before adding all the M&Ms I started with just 2, applied all the correct settings, then let the animation run. When it worked fine I added more M&M's until I had enough to fill the bowl and let it load.

This is where I ran into issues. The first issue was that the M&Ms were bouncing out of the bowl and into the rest of the scene. This was an easy fix. I just created a tube to place above the bowl so the M&Ms would bounce off of it instead of flying into the rest of the scene. The other issue was that some of the M&Ms were going through the bowl instead of bouncing off of it. After checking the settings on the bowl and all my M&Ms, I did some research and found that increasing the number of Substeps would allow for more accuracy (I originally had it low so it would be easier on my computer). This fixed the problem.

My next issue was how bouncy the M&Ms were. They were bouncing so much that by the time the animation was done they were still in the air. In examining the settings on the M&M's I found and modified the settings for Bounce and Friction, as well as upped the Mass in the hopes that the heavier they were the less they would bounce. This seemed to work.



Top Left: Bowl with 2 M&Ms placed above it ready to fall

Top Right: Lots of M&Ms ready to fall into bowl below

Bottom Left: M&Ms bouncing out of bowl

Bottom Right: Tube around M&M's to stop them from bouncing out of bowl

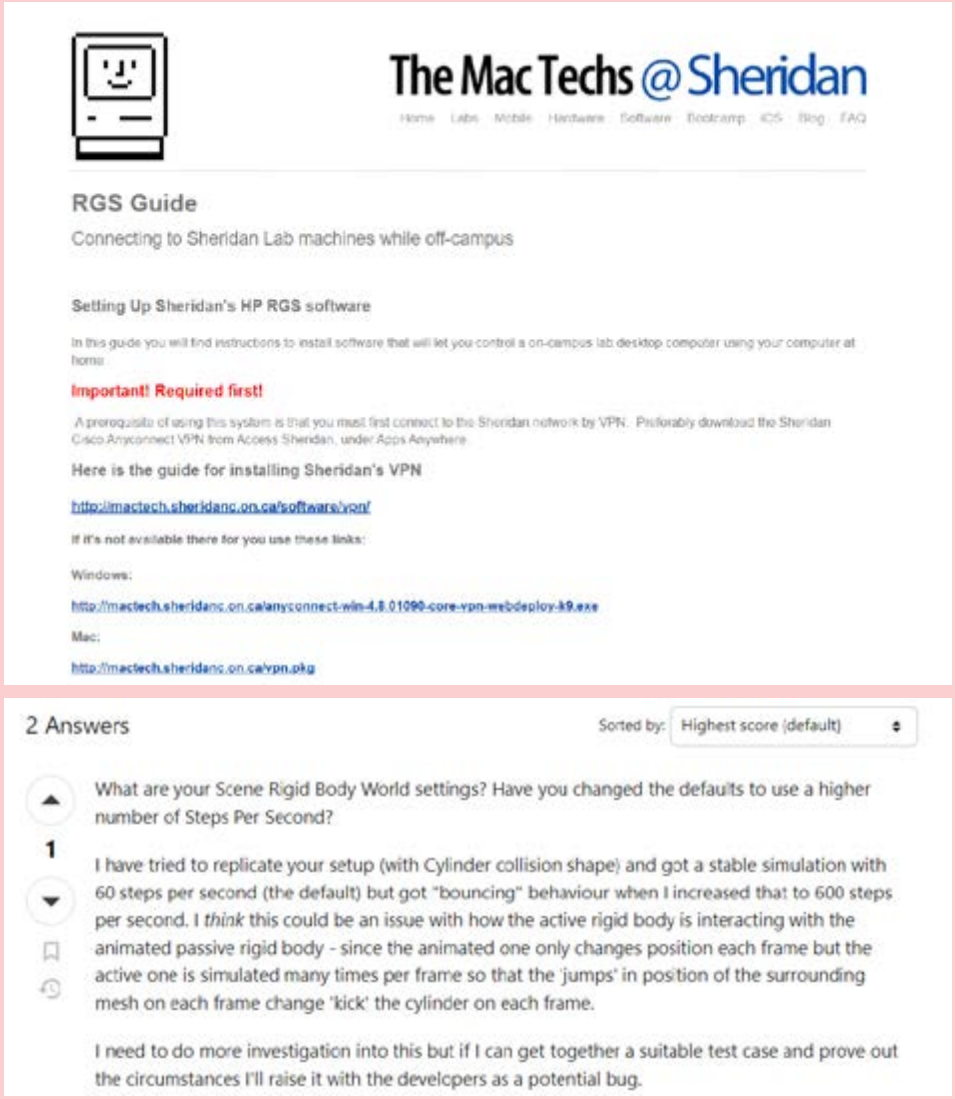
Process

M&Ms part 2

My next issue was with how long it took to animate the M&Ms falling. I had the animation set to 400 frames and my computer was loading at 0.06fps, meaning that theoretically it would take almost 2 hours to load the animation (though in timing it I found it was loading far slower); with the amount of iterations I was going through to learn how to make the physics work properly, I could not wait 2 hours each time I wanted to see if it worked.

In asking my peers and my professor about any solutions I learned about the RGS software Sheridan offers to allow me to connect remotely to a more powerful computer in order to speed up the process. I followed the instructions to connect but found that the Blender that was installed on the remote computer was not up to date and could not load my file.

My next step was just accepting the time it took to load and allowing the load to take place overnight. The issue with this however was that the physics I animated did not work correctly and made the M&Ms still bounce and move in odd ways. Doing further research I learned that setting the Substeps to 60 is best for accurate physics (I had set it to 250 after learning that the higher the number the more accurate the physics, but apparently there is such thing as a too high number), and this seemed to not only somewhat fix the issue with the physics, but also significantly improve the loading time so now it only took about 10 minutes.



Top: Guide to using the RGS remote computer
Bottom: Comment in Blender Stack Exchange about using a Substep value of 60

Process

M&Ms part 3

Still not happy with the inaccurate physics I went back and did more research. I finally found my solution in a Reddit thread in which I learned that Blender has a hard time calculating the physics on smaller objects (all my objects were small as I modeled them all to their real-life size) and that scaling the whole scene up would allow for more accuracy. After scaling my entire scene up by 100 the physics finally worked properly and I was able to get an accurate and natural looking placement of the M&Ms in the bowl.

Next I went into the material settings and lowered the Roughness to make the M&Ms shinier, as well as added Color Ramp and Object Info nodes to randomize the color of each M&M.

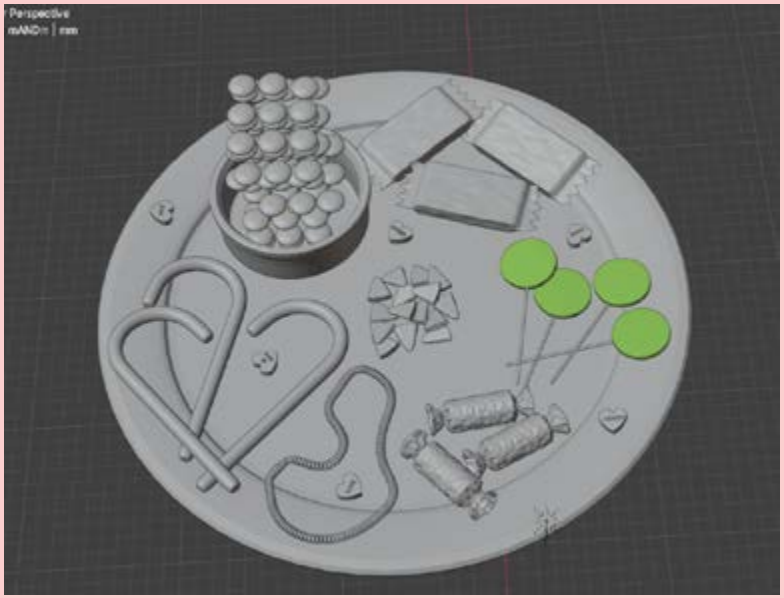
In my **Analysis** of my process I looked at all the different steps and iterations it took for me to get to this point and found that in this case, for this project, I probably bit off more than I could chew given the amount of time I dedicated to learning the physics versus how much time I had for the project. From this I **Concluded** that learning physics could very well be the focus for the my next module given the sheer amount there seems to be to learn.

Process

Object Placement

Now with all my items modeled I followed my **Plan** and placed the objects on a simple plate I modeled. The most difficult part about this was placing the objects so they didn't go through each other, having to tediously and manually adjust the rotation and XYZ to ensure that they would sit on top of each other instead of clip through. This was especially difficult in the translucent objects (the suckers particularly) because any overlap with other objects would be seen in the clear material.

I **Analyzed** that with my new knowledge of physics I could apply physics settings to all the items and allow Blender to place them naturally, but **Concluded** that it would both retract from the control I have over the placement and most likely present the need for many more iterations and much more time given that mistakes are likely to be made.



My plan for object placement vs the final placement

Process

Setting

For the background of the scene I just created a simple light pink plane that matched the colors used in the candy. I decided on a simple versus a busy background because I thought that anything too busy would distract from the complexity of the candy.

Plane with plate and candy scene on it

The HDR I ended up using was not candy themed, or even related to candy, but since there was not going to be any large reflections showing the HDR it was okay to not be related. I chose this one both because it has lots of light points making for interesting lighting and ambiance, and also because it used many of the same soft pink, orange, and yellow colors used in my scene.

HDR used in setting

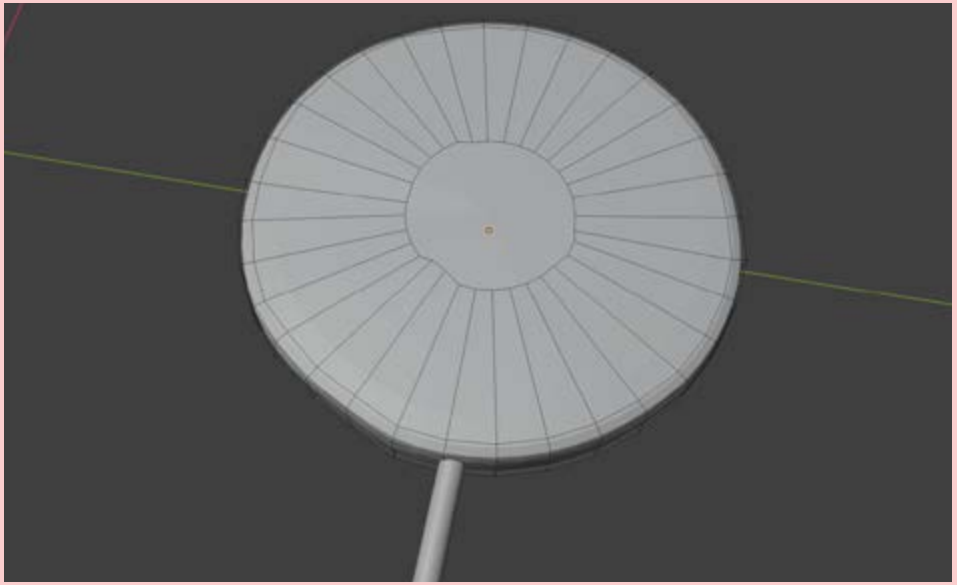
Process

Details

Realistic Shapes

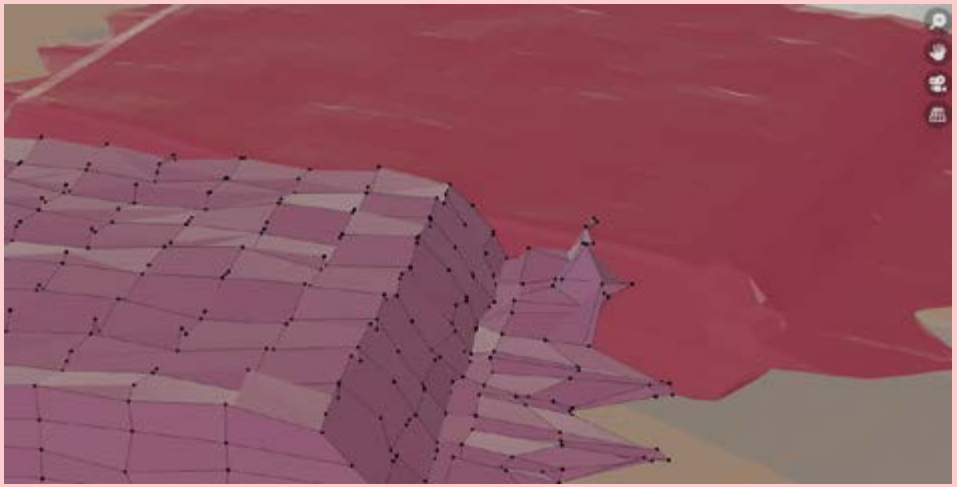
A detail I paid attention to in modeling the candy was making sure that they weren't too picture perfect, they their shapes had deviation like candy in real life. For example in the suckers, once I was finished the overall shape of the model, I went back in and moved and rotated vertices and faces in order to make the shape seem more natural instead of a perfect circle.

Geometry of a sucker warped and altered to look more natural.



Bends and Folds

Another detail I paid attention to is how the geometry of the candies would interact with each other. For example, when placing the chocolate bars I went back into the models and moved and rotated vertices to give the look that the wrapper's bent or folded where the chocolate bars were touching.



Chocolate bar wrapper corner bending from being pressed against another bar.

Process

Camera Placement

My original Plan for camera placement for the render was to shoot from a top-down view, creating fun geometric element with the circular shape of the plate. However in my Action of trying a render from this view, I Analyzed that from above the details of the piece were lost (such as the glass bowl, the sides of the chocolate bar, some of the shadows). From there I Concluded that a slightly lower perspective would work better, something that allowed view of both the top and the sides of the piece.

Original camera angle

Final Piece

https://ixd1040.phoenix.sheridanc.on.ca/specialTopics/mod2.html

Final Piece

Details

Reflection

The overall feedback that I received was that my work was very aesthetic pleasing and well done, but also has the opportunity for improvement in both visual and backend areas such as detail and render time.

The main constructive feedback I got in terms of visuals was to make my scene look more realistic by roughing things up a little; add some scratches on the plate, some chips or cracks in the candy canes, and overall just warping the shape of the candies a bit more. While I did try to do this in my process I can definitely see that I probably only see it because I was the one who did it, and that for others viewing the piece for the first time, the details are too small to be noticed. Other feedback I got on the visual aspect was that some improvement could be made in the placement of the candies to make the scene look more natural. My peers said that the placement made the piece look a little rigid and static, and that perhaps using the physics function of Blender like I did for the bowl of M&Ms would make it look more natural. This is definitely something I will consider for my next piece, as I do agree that in some areas the placement looks odd. However I believe I will have to do some more research into the physics function first, both so that my results are more accurate and so I may find a faster way to load the results. My peers also suggested adding camera movement. They said that rendering a video with a moving camera instead of an image would bring visual interest and really give the opportunity to see the piece from more angles and show it off. This was interesting to me because unlike the feedback about making the piece look rougher and using physics, this idea had not occurred to me. For this piece in particular I believe exporting in video would be an interesting way to showcase the physics, allow the viewers to see the M&Ms falling into the bowl in action. It is definitely something I will consider for my next module, although I imagine there is also a lot to learn about camera movement and rendering video.

The most interesting piece of constructive feedback I got was to add interaction so that users could interact with the piece such as being able to move the candies around. While I am not sure how I would go about this, and would require lots of research into finding a program that would allow this (as well as a much more powerful computer most likely), I really enjoyed the idea that my pieces could become more immersive.

Reflection

Continued

In terms of positive feedback my peers said that they were very impressed with my use of textures and materials in making the candies look realistic. In particular they noted that the wrapper on the hard candies was “wild” due to the transparency and crinkly look it has. They also complimented my reasoning behind why I chose candy as a subject matter, saying that it was smart to choose something that would allow so much opportunity. Lastly, they also complimented how cohesive my color palette is, saying that it really helped enhance the aesthetics of the piece.

The feedback I received provoked a lot of thought on my end, both in terms of techniques and tools I could apply in my next piece (such as using physics for more natural placement), but also about the direction I wanted to go for the next piece. Before the feedback, my idea for my direction in Module 3 was going to be focusing on modeling and rendering an entire room, a real test of my skills. But with the feedback I received now I am considering focusing on either physics or video in Blender. While realistically I would like to do all three (an entire room scene with moving objects and a moving camera), I think that given the time frame I only have time to learn and focus on 1 of the 3. As it stands, I believe that my focus will be on physics, as I already am invested in improving my skills in the area.

Reflection

Continued

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