Beehive

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Let imagination guide you

Analog

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Abstract

I started out this project with an interest in how important play is for a healthy childhood. I wanted to investigate in how we can develop play equipment for playgrounds and how the form language affects the imagination.

To expand my knowledge, I reached out to playground responsible at Malmö stad for an interview and also met a school class to ask about their opinions on playgrounds. After I had done my research on today’s playgrounds, I saw it as problematic that they often had a theme and boxed in the play to suit the theme. Also, that some of the playgrounds were not seen as exiting because they were seen as too safe because they did not provide any challenges.

I got very interested in abstract forms and forms that were inspired by nature, so I experimented with sketches and clay. I then chose the form that I was most fond of and that also fulfilled a purpose within play and then I refined it.

The result became a playground equipment that is built out of hexagons to create a durable build that is also inspired by nature’s own building methods.

It fulfills the need of curiosity and to explore by giving the possibility to hide and create your own world.

This is one product of several that could be a different approach of how we form playgrounds. Instead of deciding what kind of play that would occur we give the tools to explore and apply your own imagination to it.

Background

Personal motivation
I find a big fascination in play and how it affects us throughout life, especially as children. Most mammals use play as a way of learning about life but also just for enjoyment and humans are not an exception.
I wanted to learn more about the psychology behind play and see how the objects we come across affects our imagination. Because imagination is such a big part of our life and I wonder if we can affect our possibility to imagine positively depending on how we grow up. I also found it interesting during these times when there are concerned voices in our society about children using internet and screens a lot and if it could cause side effects. Movies and games are feeding us finished information and we do not have to use our imagination as much in comparison to when reading books and playing. The usage of screens is competing effectively with outdoor play and other activates and time will tell if it will have any consequences.
Another aspect is how the design affects our interest in play. Will some groups be less interested in playing at the playground if we give it a certain theme? Due to playgrounds being placed in public areas I want them to be as interesting for as many groups as possible and therefore avoid giving them an intended theme. I want to explore if we can give children the possibility to project their own interest and imaginations on the object more freely.

Relevance
Due to an increase in children growing up in cities it is becoming more important than ever to develop good playgrounds. A place where children can play safely and challenge themselves and have a chance to develop. I believe children need a place in the cities which are made with them in mind and that we need to explore further on how the form language of the playground affects the way of playing. Because studies show that children in the western countries are becoming more and more inactive due to choosing to rather sit inside in front of screens. [1]

1 https://www.nhs.uk/news/lifestyle-and-exercise/children-become-less-active-between-age-5-and-11/ (050420)

Introduction

Project Description
Playgrounds will get an even more important role in urban cities when more people move from the countryside and the cities expand. Due to the lack of places in cities that are made entirely for children to roam freely and to enjoy themselves. Also, how we view playgrounds might change if they become a cross between play equipment and art installation.

Idea
I want to explore abstract form and how it might encourage play and imagination when aplied to playground equipment. Can abstract form give a larger interest and encourage play when able to attach your own imagination to the object?

Design Idea
Design a playground equipment that fulfills one of the base needs on a playground. Which integrates nature and abstract form in its form language.

Target Group
Children in the age group of 5-10 years old. Of course, it is desirable that children in other ages can use it, but I found in my research that this was the age that playgrounds were the most fundamental for.

Intended Outcome
A 3D model to show details and the object in its intended environment, A large simple mockup to show size. Sketches and mockups to show process.

Limitations
A product within EU regulations.

Research

Play for development

As mammals we use play as a way of learning about life and our bodies limitations. By learning our limitations, we can challenge our self to become better and therefore develop.
To understand play further you can categorize it like this:[1]

- A brisk or charging movement
  (example: pretending that you are an animal)
- Acting or imitating a person or character
  (example: to play shop)
- Building and using equipment
  (example: to play blocks)
- Exercising and moving to get a reaction
  (example: to play tag)
- Making funny faces in opposite to serious ness
  (example: to play peek-a-boo)
- Games
  (example: to play catch)

We can agree today that play is important for the development of the brain and studies have been made on rats and the effects of being allowed to play regularly. The brain will develop faster and make it easier to learn.

For children in cities playgrounds play an important role because this is a safe place for them to explore and challenge themselves.

They do not have the same possibilities to use the outdoors and nature as their playground, therefore it is important that we make places that is for them and their enjoyment. Unfortunately, today there is a lot of discussions about if modern playground is not challenging enough and instead becomes boring. Due to EU standardizations that has made it harder to make interesting playgrounds. The standardization is not law, but you could end up in trouble if you are not following the standardization and a child gets hurt.

There is still discussion about what makes a playground a good one, but some argue that a playground where you can interact with the environment speaks for play and fun. For example, instead of using the plastic rugs as ground material you can use sand and bark which you can dig, collect and build with. To avoid making the playground feel sterile it is also important to use plants and trees which the child also will be able to interact with.

1 https://stayathomeeducator.com/play-impacts-early-brain-development/ (030220)

ABOVE The school I visited and a part of the school yard where alot of the outdoor activites aree held.

RIGHT Crafting made by the children when talking about a good playground.

Interview with Children

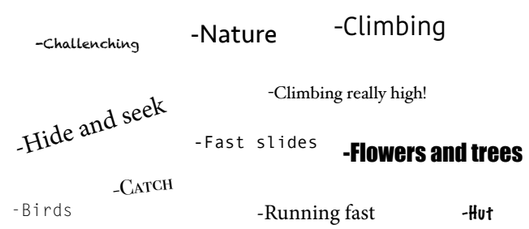
I felt like it was important to go out and talk to children about what they think about playgrounds. They are the target group and I wanted to hear their thoughts about their favorite playgrounds and also less favorites.

I got the possibility to visit Backaskolan in Malmö and meet their preschoolers which are in the age between 6-7. I spent a day with them and interviewed them about playgrounds. I was also out with them on the recess so they could show me their playground on the school and tell me about it.
The questions about playgrounds were:

- What is your favorite playground and why?
- What do you usually play on the playground?
- If you got to design the playground what would it look like?
- Do you know any bad playgrounds? Why are they bad?

When summarizing I got out that most of the children were very fond of playgrounds where you could climb and also hide. The bigger the better because it looks fun and gave the anticipation of an upcoming challenge. They were also very fond of if there was a lot of trees and bushes, because they gave good possibilties for hide and seek.
Overall the day was very educational and I got some clear indications of what the children enjoyed.

Some keywords from the interview:



Field trip

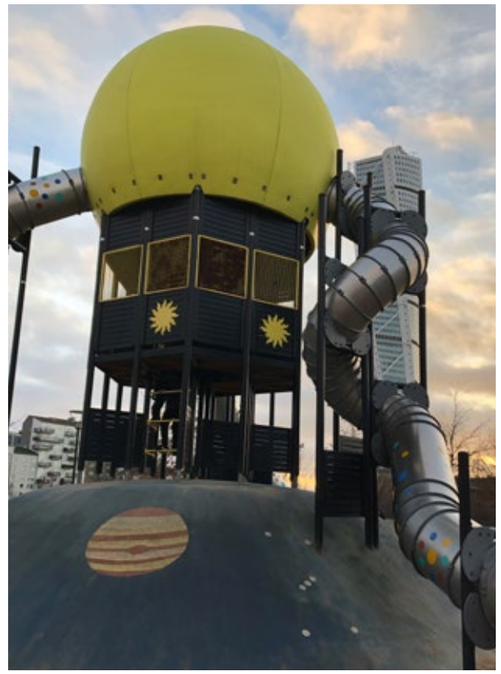
Next step in my research was to visit playgrounds in Malmö and Lund to see what exists and what it looked like. So, I could get inspiration for my own project and also to see what kind of materials that was commonly used.

The photos on this page is from Teaterlekplatsen (Theater playground) in Malmö pildammsparken

TOP RIGHT Climbable drums
MID RIGHT Sitable animal that swing
BOTTOM RIGHT Climbable and moves when standing on it

TOP LEFT ”Äpplet” in pildammsparken Malmö
MID LEFT Small trampoline
BOTTOM LEFT Slide and hinding possibilities

TOP RIGHT Ropee bridge in Västra Hamnen
MID RIGHT Colorful hills at ”Sagolekplatsen”
BOTTOM RIGHT Bench at ”Sagolekplatsen”



TOP LEFT Climbing and slides at Västra Hamen
BOTTOM LEFT Climbing in Magistratsparken

Stadshuset in Malmö

Interview at Stadshuset

I went to *Stadshuset* in Malmö which is the headquarters for employees at Malmö stad. There I had an interview with Sara Fridh who are in charge of the playgrounds in Malmö and is involved with the design decisions.

There I got some great input in how they make decisions for their playgrounds and how they prioritize. I learned that after 15 years approximately the playgrounds need to be replaced or get a larger renovation, due high wear on the equipment. She also gave me great input on how to think about the safety standards and which of the guidelines that were more important to look further into.

We talked about upcoming plans for playgrounds in Malmö and which materials they use and why. One example was the reason for why they still use the rubber rugs as ground material to some extent, this is because they provide larger availability for strollers and wheelchairs on the playground. This was very valuable information because until then I had only read about negative aspects of the rubber rugs. This was a very valuable experience and I got a lot of great information.

Analysis

Why playgrounds?

It stands clear to me that playgrounds are very important to create and develop. They become a big part of children's childhood and an important tool for development and fun. In a society where we lack safe spaces for children to exercise and explore on their own with some supervision. We are also in an era where more and more children are not exercising regularly which worried voices believe could cause health related issues later in life.

How?

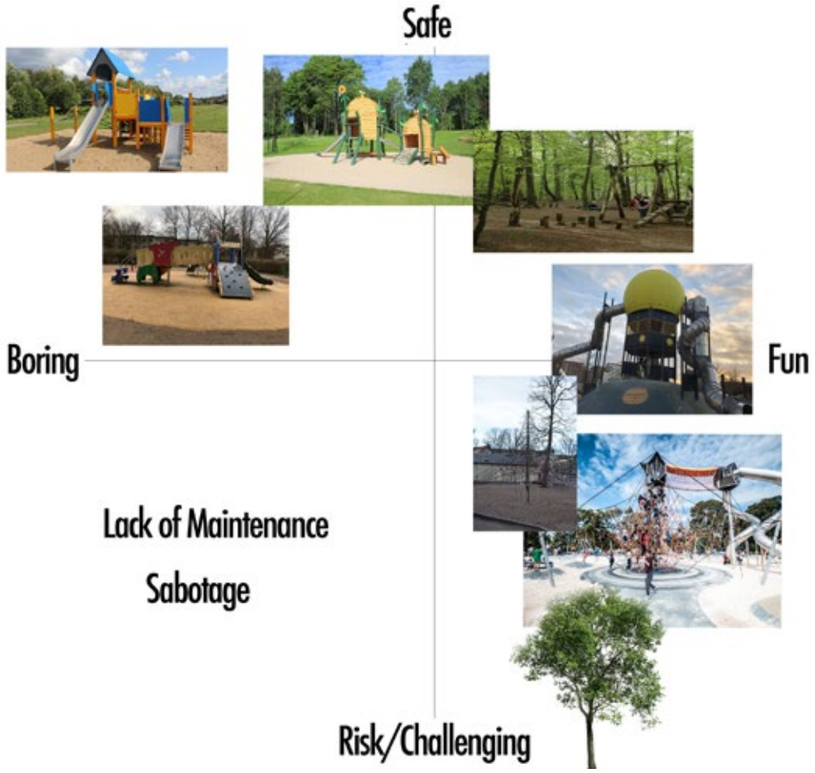
After my field trip and seeing what exist out there, I believe there is a lack of playgrounds with an abstract form language, that is not telling the child that there is a theme on the play that should occur here. I think this is an interesting subject which needs to be further explored. Children today are already fed enough finished information and stories through movies and the internet. We need to give them space for free creativity. But important is that the object still fulfill the needs of an playground equipment, so it does not become an abstract art object that is hard to interact with.

Where?

After my research I had strengthened my thesis in the importance of greenery around us for wellbeing. Therefore, I saw it as beneficial if the playground equipment was placed in a park. Where trees and bushes play an important part of the spatiality.

The plants should preferable be durable and low maintenance so they can survive that children play among them. I think a nice detail would be if the plants complement each other throughout the season, for example using wintergreen plants and plants that blossom during the spring. In this way the plants would complement the playground nicely throughout the year.
I found some examples of plants that could fulfill these criteria's nicely.

- Syringa
  (Have beautiful flowers during the spring)
- Rosemary vidé
  (Green and durable)
- Thuja
  (Winter green, fast growing)
- Ginna leaves
  (White flowers during spring)
- Serviceberry
  (Red berry's that you can collect)



Market analysis

I made a market analysis over what kind of playgrounds are out there and how they are placed on the fun to boring and safe to challenging axis.

The diagram showed me that there is a lot of playgrounds that are on the safer side and targeting small children, the older children might find them boring because they are not challenging enough.

There are also playgrounds that are still seen as fun by a larger age span without having any larger risk, they focus on for example balance challenges and are often shaped as an obstacle course.

Then we have the playgrounds targeting older children they are often working with height to get a tingle in the stomach when climbing but they are still fulfilling the safety standards. But if you somehow would fall the risk would be greater.

A tree is put in there to resemble an object which is challenging and also often seen as fun by children and are very common to interact with during play. But they are also the biggest risk because they are not managed and checked as playground equipment are.

There is one slot where you have risk and boring together, I don't believe any playground is placed here deliberately but it could happen if there is lack of maintenance or sabotage.




Imagination

I got very fond of the sentence: Imagination, we see the same thing and still not.
I thought this was an interesting concept for my playground and how I could use shape and imagination together.

I did an exercise for myself to try out what I could imagine when looking at clouds. I spent a couple of minutes watching and then I started drawing without putting much thought to it. I found it fascinating that the more I drew the more I started to see, and I found it pretty easy to create characters out of the clouds.

I also wanted to try to make an character out of an solid object, in this case a tree and I saw an octopus with long arms throughout the branches.


Function analysis

General specification for a playground

Main function:
- Place for children to play
- Encourage movement

Neccesary function:
- Exploring
- Provide a safe space for play
- Intergrate with nearby surroundings

Other function:
- Addition to the city for children mainly

My analysis

My specification for a playground

Main function:
-Place for children to play in the age between 5-10
-Encourage play and challenges

Neccesary function
- Allow/support climbing
- Offer challenges
- Intergrate with nearby surroundings
- Provide a safe space for play
- Exploring

Other function
- Addition to the city for children
-Cross between sculpture and play object

Function analysis

To clarify for myself how my playground equipment would standout from already existing ones I made a function analysis.
I added an age span to my specification because during my research I found out that there was a shortage of playgrounds targeting a bit older children.
Also, that plants would be an important part and the connection to nature, because once again through my research I found how important greens was to the spatiality. They are also fitting well with the abstract theme and how you can apply your own imagination to them.
Another change was that I wanted it to allow climbing, due to I believe it could create a good challenge. This would give you the satisfying feeling of succeding when reaching your goal and overcoming an obstacle.

My main change was that instead of the idea that a playground is mostly for encoraging movement, I saw it as equally important that it would encourages play and give challenges. Beacuse if we encounter challenges, we will most likely see the playground as more exciting. Because we have to try our best and realize that some challenges you have to mature with age to manage. With challenges the child will develop their brain and get better body control. Confidence is also a positive effect when you succeed to defeat your obstacles. I think movement will automatically follow with a playground that encourages play with the whole body.

ABOVE "Äpplet" from the backside

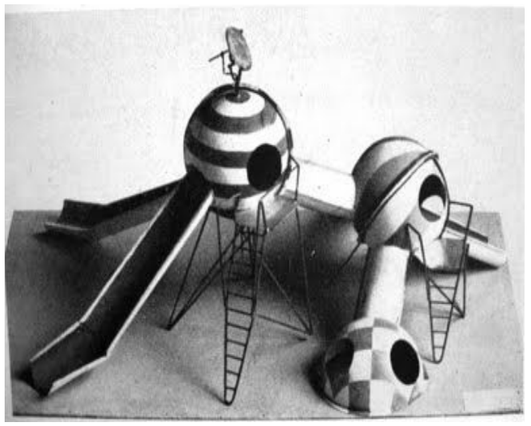
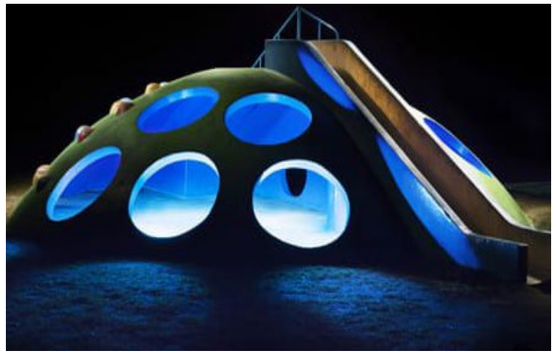
TOP RIGHT Children playing on "Äpplet"

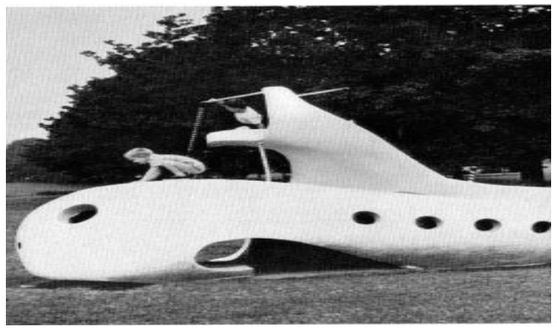
BOTTOM RIGHT A child using the slide part

"Äpplet"

This is a cross between a sculpture and a playground equipment made by Axell Nordell in 1972. I have always loved this sculpture and I played on it a lot as a child. The soft flowing form gives a very inviting feeling and there are no hard corners you can get stuck on and hurt yourself. That makes the form very approachable from all angles and you did not feel as much as there were a right or wrong. I also like that even if the creator thought about an apple when making it, you can still apply your own idea on it due to the abstract form. I actually called it the tomato as a child. This became a large inspiration source for me, and I decided that I was going to try to find playground equipment in the same style.

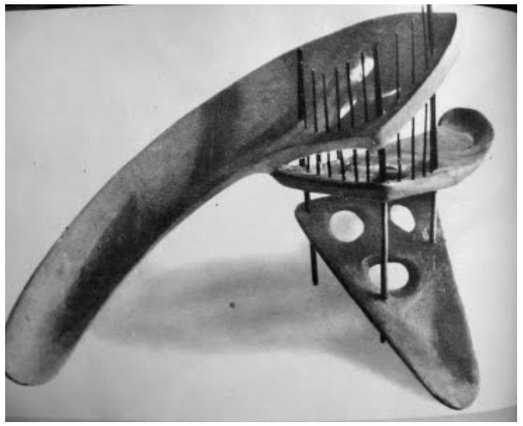











Playgrounds from the 60s and 70s
Feeling inspired by "Äpplet" I started to look after similar playground equipment from the same era. I found a couple more from all over the world in the same abstract style I was looking for. A couple more in Sweden and couple in Japan and several from unknown areas. I stumbled across the expression "the golden age of playgrounds" when finding these pictures. Apparently the 60s and 70s are called this due to a period where there was a lot of experiments on how an playground could be shaped.

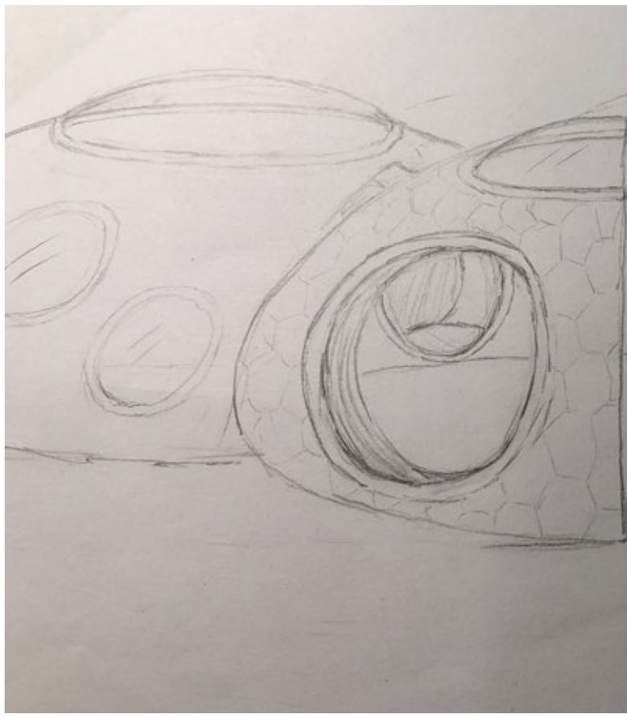
Mood board
Nature

Patterns and forms in nature
Convinced that there was a lot of inspiration to get from nature I thought it would be a good idea to make a mood board that I could use during my work for inspiration. My main focus was to look after textures and details in nature. I noticed quickly that repetitive patterns were the ones I found the most interesting, because they gave a mesmerizing impression.

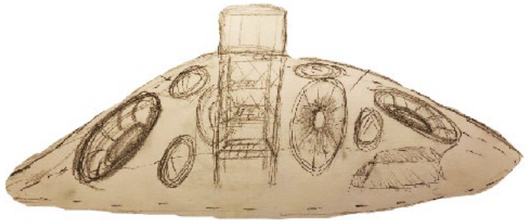
Above you can see the mood board I made which have a wide variety of pictures, what they do have in common are the repetitiveness in their construction and appearance.

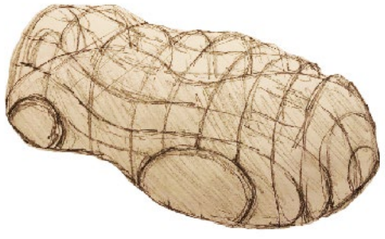
Synthesis

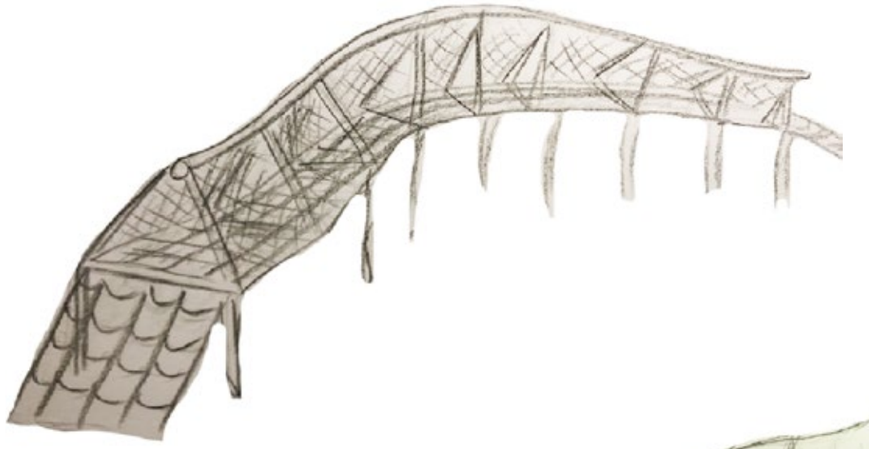
Initial Idea Generation
I started my process very experimental in my exploration of shape. I worked with both sketches and clay depending on what I found mostly suiting for the intended shape.
Sketches were very effective when thinking about patterns or more slender constructions. But clay was better to use when doing something that was intended to feel round and full. It was a more hands-on experience which I truly enjoyed.
Neither the sketches or the clay models were detailed or refined their only purpose was to get the ideas out and have something to start from. It was good to use both clay and sketches as a way of idea generation because they complemented each other nicely. When having the ideas beside each other it was easier to decide what I liked and could work further with.



Concept sketch







Sketches
I made sketches both on paper with pencil and also digitaly in photoshop. The intention of the process was to get the ideas out fast and to have as many alternatives as possible to work from. I used my mood board as inspiration and also other forms I found in nature. The theme was to keep it abstract and I was playing around a lot with how much was too to abstract or when is it to obvious what the inspiration source was.

Clay models
Clay was very effective when trying shapes with more mass, because it gave a quick result with the intended look. But it was was also a lot of fun to let your hands explore shape with out a clear intended goal for it. A polymer clay was used and worked well for its intended purpose because there was no risk for it to dry out and you had to put it in the oven for it to harden.

Main function for children

- Being able to climb: Challenge yourself- development.
- Go fast- Place to run: (Slide, firefighter rod) - a bit scary- challenging
- Hide: Your own world, away from adults
- Balancing- challenging- development

Taking a step back

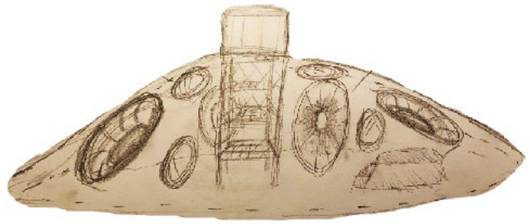
When doing the fast sketches and clay models I felt like I got a bit lost in my own process. I had several ideas but many of them where very abstract and I did not know how you would approach them. This was not what I wanted so I decided that I had to take a step back and evaluate the needs on the playground. From those needs I could then combine it with my sketch models and then get a clearer purpose. Due to time limitations in the project I decided that I would do one playground equipment part and develop it as far as possible. I divided the needs into four categories which can be seen above. These are the categories I believe are the most important to apply to your playground equipment. (Can be seen above)

Climbing was mentioned a lot when talking to the children on the interview but I also found reserach that strengthened that belief. Climbing is very important because it is seen as challenging because you have to use your hole body to achive it successfully. This is the theme through all of the categories. The feel of something challenging that will result in a development when succeding. The only one that stands out is ”Hide”, this category mainly focus on childrens need for feeling some independency and to create their own world which they controll.

Most children enjoy hiding under something.

Hide

From my categories I chose ”Hide” as the main function for my playground object. I chose it because I think this one is very important at a playground; it is a chance to create your own world away from adults’ eyes. It is a place where you can play hide and seek or maybe play storekeeper. Also, I found it interesting as it was the one category that stood out from the rest in its needs. Most children find it very exciting to crawl inside something and explore. This is what I am looking for, striving for curiosity and excitement. Because once again I feel like this category is very well intertwined with imagination. It is a tool for giving the child their own place which then can encourage to play.



Objects which fulfilled the category "Hide".

Anish Kapoor
This was a great inspiration for me and my concept. Especially the exhibition *Leviathan* which showed a great sculpture formed as a sphere, which you can enter. On the inside you were faced with an experience of something spectacular and probably not what you would have expected when seeing it from the outside.

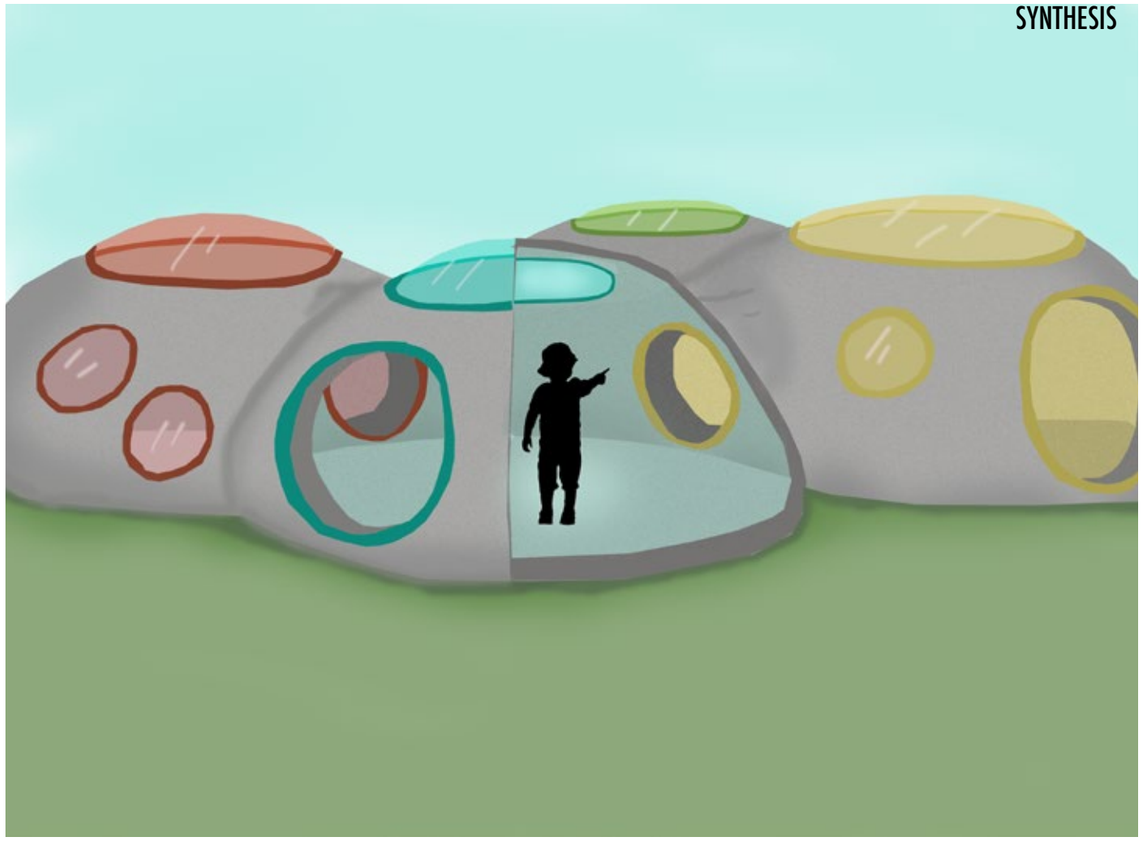
Curiosity

From the category "hide" I picked out the previous sketches and models that I thought best suited the category. What they all have in common is that they give the possibility to crawl inside the structure. These sketches and models then became the ones I used as the foundation for the design.

What I found very interesting was the possibility of going inside the structure and how that it will pique your curiosity to see what is inside. Like entering a cave in exploration. Research has shown that curiosity is closely linked to creativity and our ability to learn, because it makes us want to know more and engage in information. [1]It is very healthy for our brain to be curious and it is as important as physical activity, because it will keep the brain active.
active.

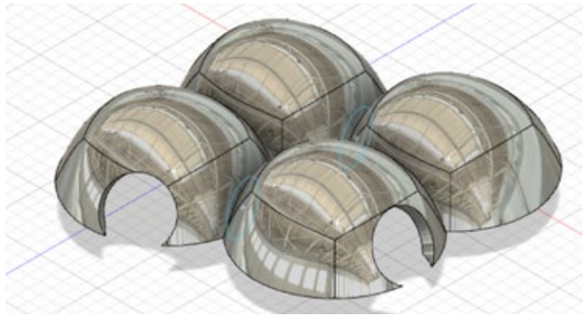
This became one of my main reasons for choosing the category, because it was was closely linked with my interest in imagination and play. I believe curiosity is one of the most important aspects of play as it is closely related to creativity and imagination.

1 https://www.sciencedaily.com/releases/2014/10/141002123631.htm (040420)



First concept sketch

The chosen concept
From my category and intended experience I had now chosen a concept I wanted to work further with. When you do an object which is enclosed there is a risk that it will feel dark and not inviting, this was important for me to prevent. I wanted the shape to feel exciting and that it would draw you closer and make you want to explore it further. I had this idea that I would use colored glass in the structure to color the inside and give it a wow-factor when entering. Inspired by the feeling of Anish Kapoors Leviathan.



3D model exploration

RIGHT Looking up through the colored glass, concept sketch.

Nightime at the playground

Center of the attention

I made an overview of a playground where I had chosen some of my concepts and put them together. My main concept I put in the middle because this is how I wanted it to be displayed. It should be the center of attention and the idea was that it should be eye catching.

This overview also showed in which environment I had pictured my playground equipment, combined with a lot of greens. The greens fulfilled an important aspect because of their free form and therefore engaging in free play. A tree could be a creature, shrubs a house and flowers food. They give more possibilities in the playground environment and therefore I see them as an important asset.

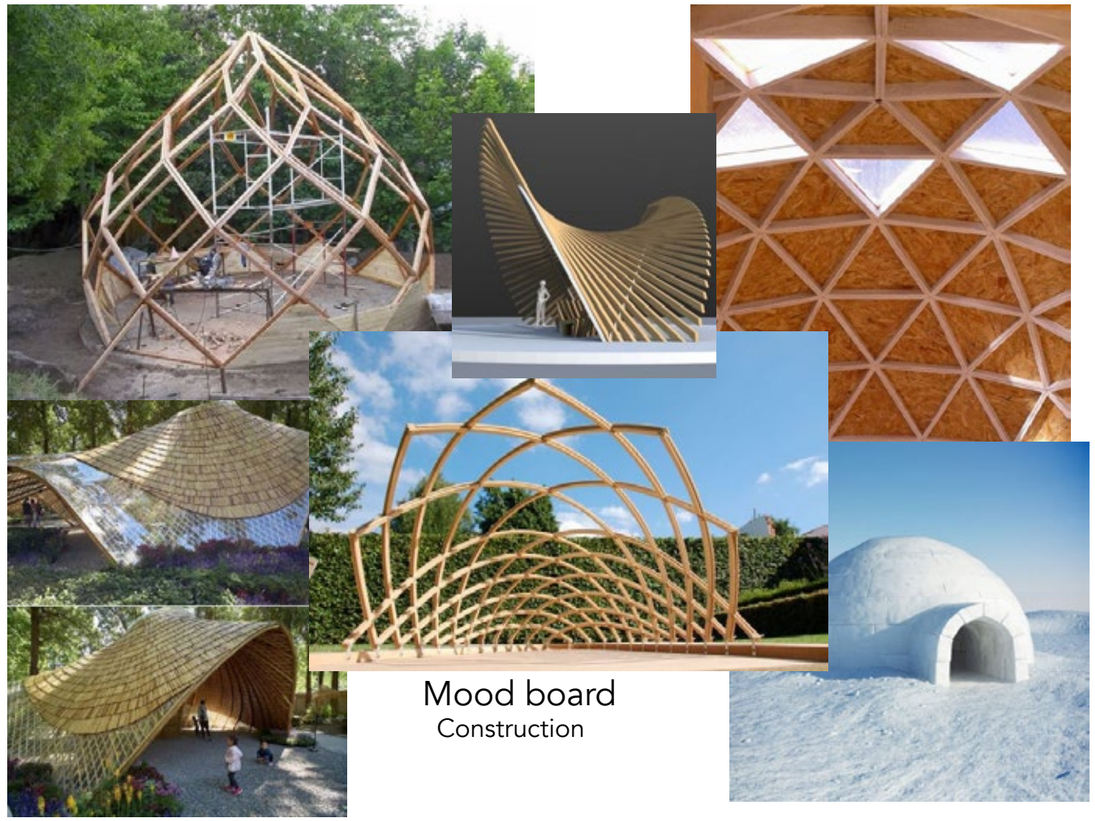
Above you can see another concept where I played with the idea that the playground equipment would be equipped with lights. This is because I looked into a mainly Scandinavian market and here we deal with the problem of very short sun hours during the winter. I find it sometimes problematic with the standard streetlamps commonly used, because they only light the playground from above which can result in sharp and strange shadows on the playground. This could cause the playground to feel uninviting which I want to avoid. With integrated lamps this might be avoided because they light themselves up and therefore gives the child a good overview of the equipment.

RIGHT Daytime concept of playground

Triangles

Circles

Hexagons



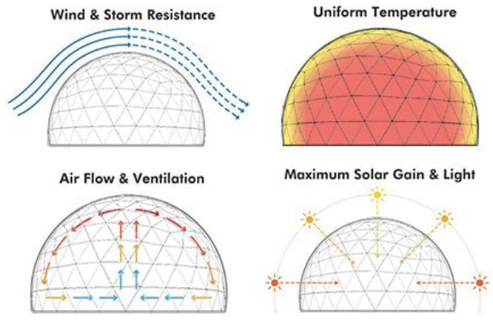
Mood board
Construction

Construction

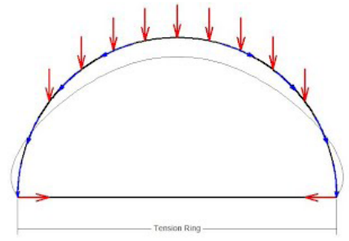
When figurating out how my playground equipment would be constructed, I started out with making a mood board of geometric structures and straight materials that together shaped something uniform and organic looking.

I learned about vault construction which has been used for a very long time to build bridges and igloos. It is when the force is distributed though out the object which then forms a very durable construction and it becomes self supporting. Vault construction actually occurs naturally is in eggs and corals.

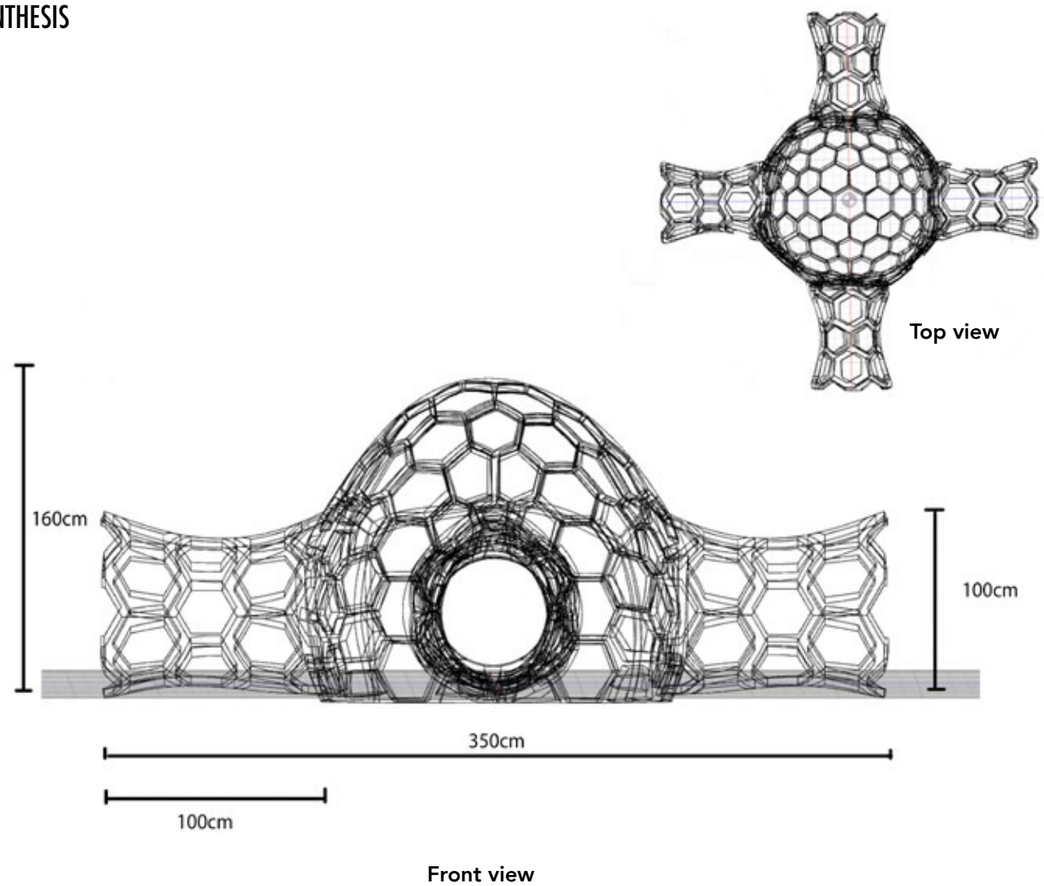
Domes are very durable due to this construction and they distribute stress and weight very well, this is one of the reasons for why some of the largest buildings in the world are domes.



Postive aspects of domes



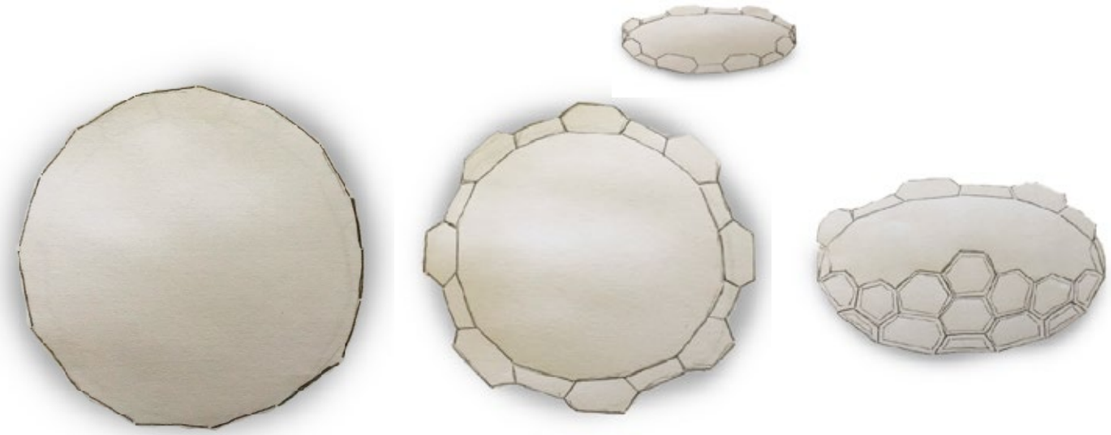
Weigh distribution in a dome



Front view

Above you can see a sketch of the object in a front view and a top view, where you can see its intended size. The playground equipment is big enough for a crouched adult to enter if it is necessary for the situation, but I wanted this to feel like a world for children and suitable size mainly for them.

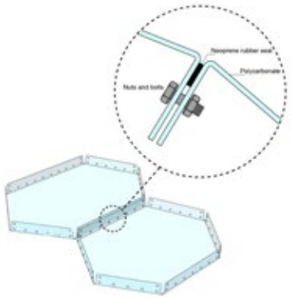
The playground equipment is divided into five pieces when created, the main dome and the four pipes. They are later assembled into one object. Each hexagon is made separately in stainless steel, the positive aspects of this material is that is cost efficient, durable, stable and lower maintenance that if using wood. When polishing stainless steel, you can get a nice glossy finish which I believe would be suitable for this object. The hexagons will then be welded together which will create a durable build and make it secure, the base would then be attached to the ground so there would be no risk for it to move.



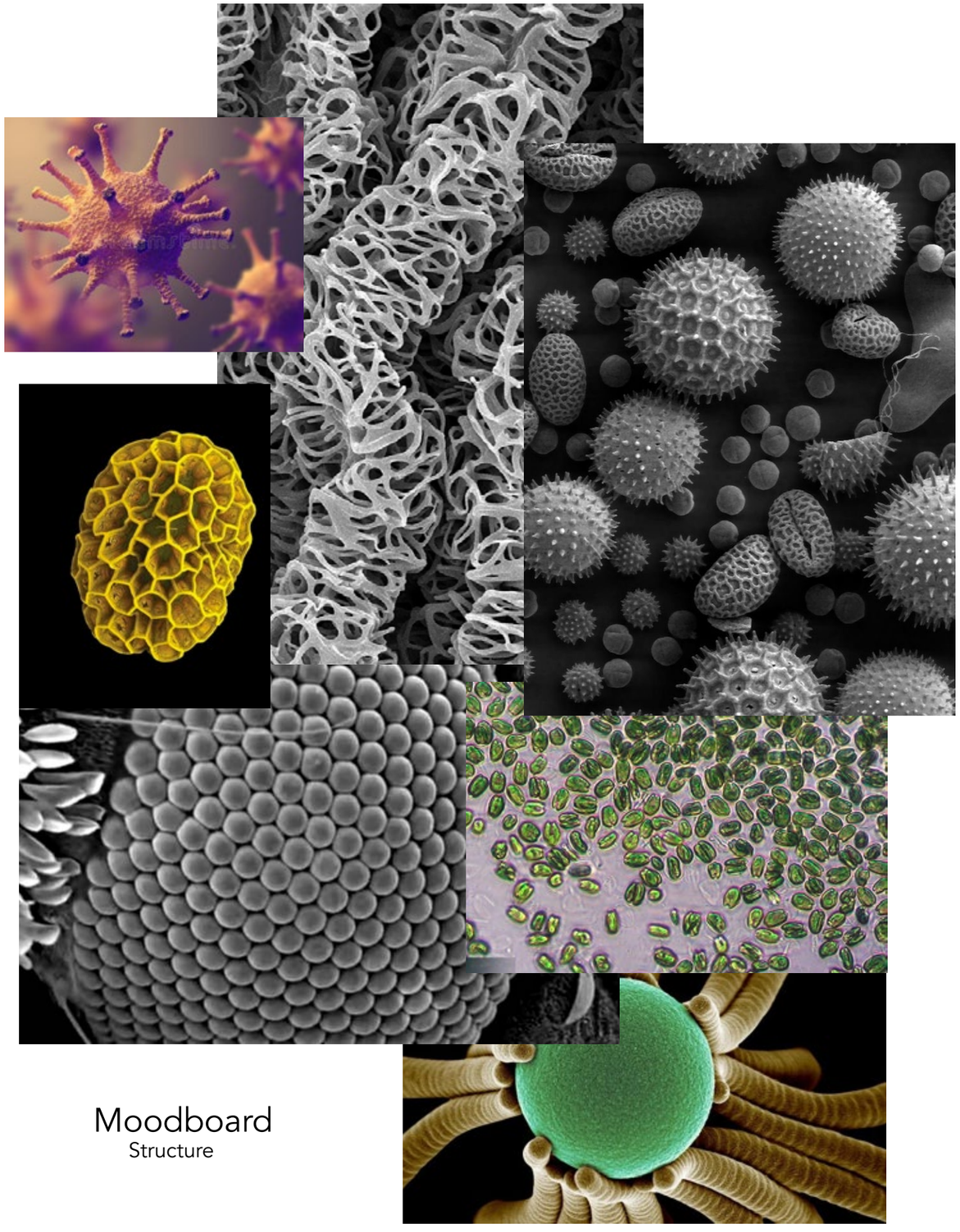
Base **First layer** **Continuation of pattern**

The base is made out of sixteen straight pipes which are welded together, the base is the part which is first constructed. The purpose of the base is so the dome does not start to move so the weight gets distributed wrongly. The first layer is then made out of every other whole and half hexagon, this is because we need a flat surface to the base. Then the pattern becomes repetitive and follows each other til the top.

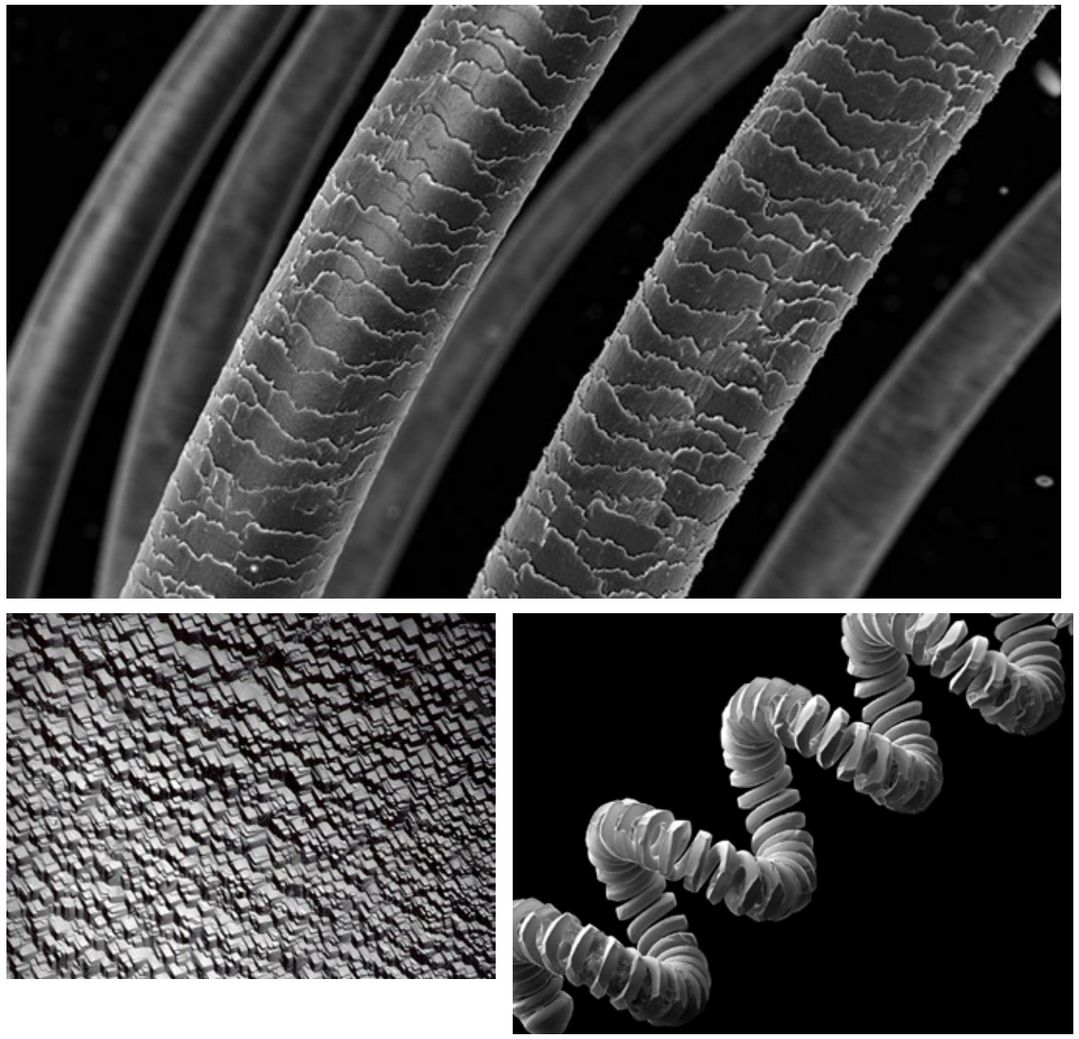
When the steel skeleton is created it is time to put in the polycarbonate panels. These are also made individual for each hexagon. I believe the easiest way to cut them out would be with the help of a laser cutter. The pieces are bolted together, and a neoprene rubber seal is put between the pieces to help create a membrane like structure which will help with the curvature. This creates a durability in the polycarbonate in itself. The polycarbonate and stainless steel are then attached with bolts to each other.



Assembling the polycarbonate

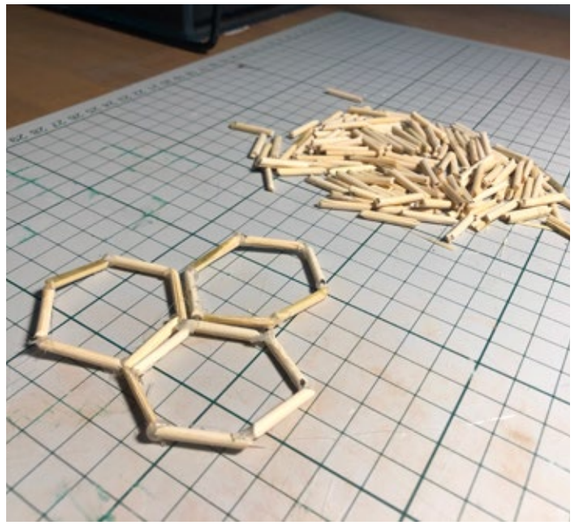


Moodboard
Structure



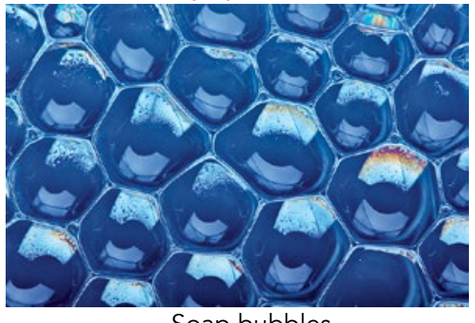
Microscopics
After I had looked into construction, I felt inspired by what we are constructed of our self and other organic objects around us. I started to look into what it looks like on a microscopic level, I felt very inspired by these forms because of the abstractness of it. Everything around us looks like this but we have a hard time to grasp it because we cannot see it our self with the naked eye.

I felt like this suited my theme very well with nature and how it is constructed, but still within the abstract theme which I wanted to achieve. I also had to thank Covid-19 for the inspiration because without the picture of the virus circulating the internet I might not have come up with the idea.



Pattern exploration

Fly eyes



Soap bubbles

Beeehive

Hexagon build

When thinking about which geometric structure I wanted to use for my object I decided pretty fast that the hexagon was the one I wanted to use. I found it the most intriguing one and I also found a lot of hexagon structures in nature, for example beehives, fly eyes and soap bubbles.

I found it very interesting that the reason for why bees are building hexagons is because hexagons demand the least amount of wall in comparison to triangles and squares, this result in a way more energy effective way of building.[1] This felt very well suited for my construction and once again I felt like I had found a way to connect my object with my nature theme.

I also found it inspirational to think about how bees pollinate our plants and flowers and how this intertwined well with my theme with all the greens surrounding my intended spot for the playground equipment. Therefore, I felt like it was well suited to call the playground equipment for beehive as a project name.

1 http://nautil.us/issue/35/boundaries/why-nature-prefers-hexagons (030420)

Step 1

Step 2

Step 3

Step 4

Step 5

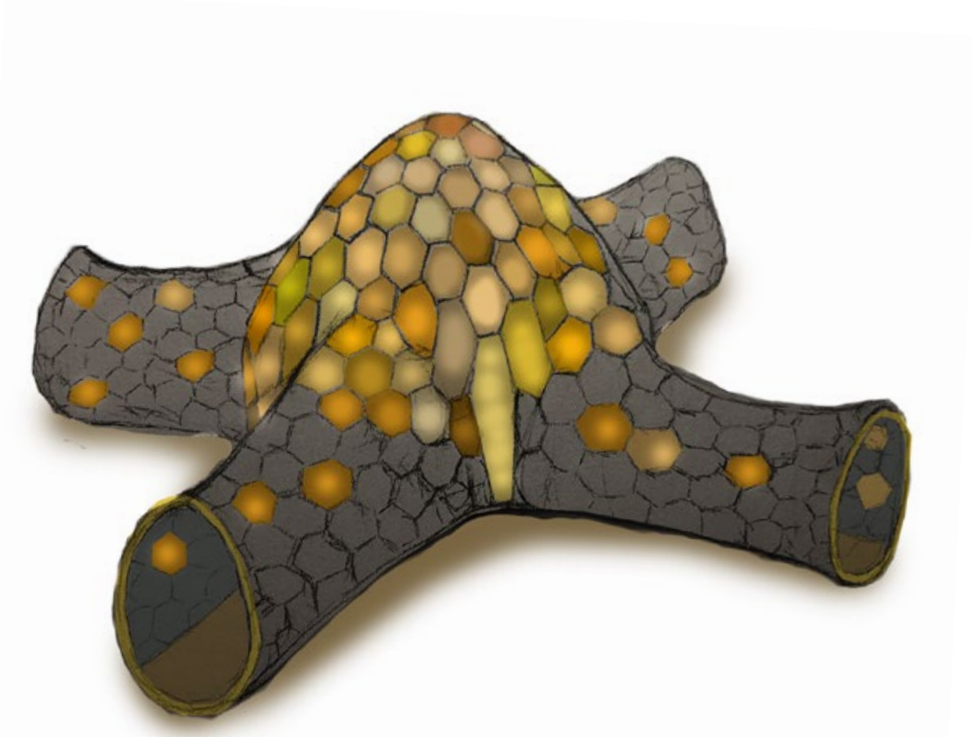
Hexagons put together

Dimensioning

To get a better understanding for the size of my object I decided that I would make a scale model. This would also give me a chance to get a better understanding for how the hexagons would work together. It felt good to take a break from sketches and go back to being hands on for a moment.

The model was made of bamboo sticks, wire and lots of tape. The wire held it together and and the tape made it more stable.

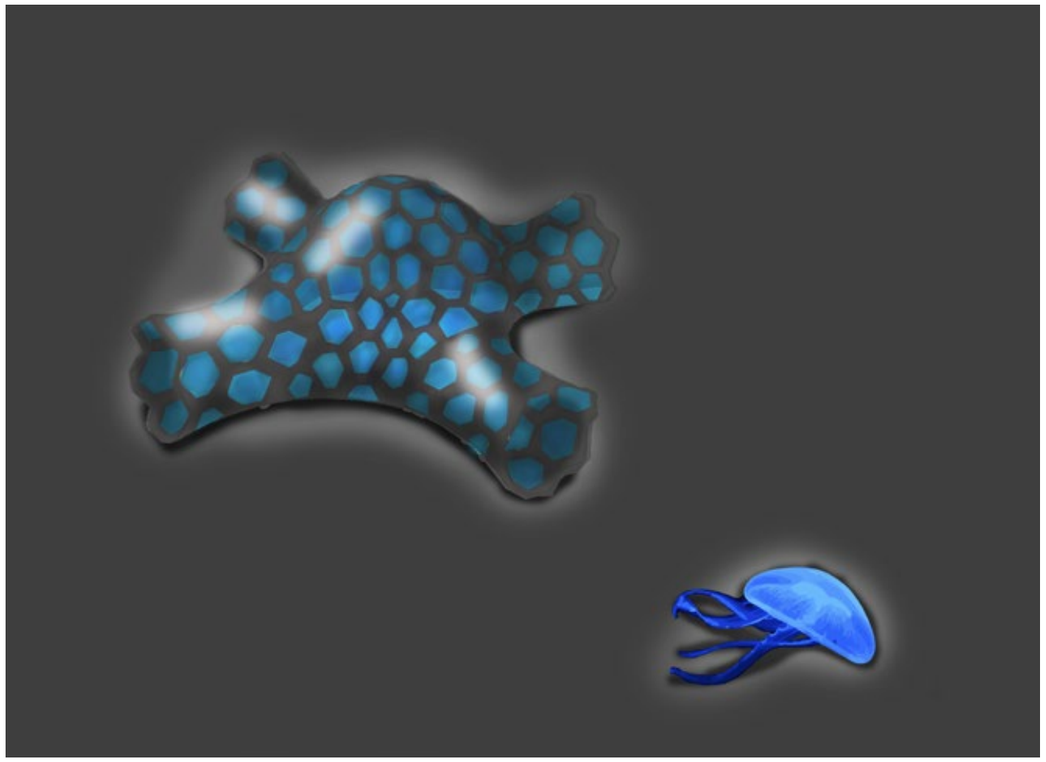
Size
In my size model the hexagons were very over-sized due to lack of time and patience to do several more in a smaller size. This structure was surprisingly durable, and it stood outside for two weeks and even survived a smaller storm without breaking. It was interesting to observe even if the intension never was for this model do be durable. It strengthened my belief from the research how domes are very durable and also the hexagons themselves. It was very good for me to make this model because I felt like I understood both construction and size better after this. On the pictures you can see me inside the structure as reference of size, I am 1.68m tall.



Form exploration

With my quest on making something that would intrigue your curiosity I always pictured something that you would crawl through on your quest for exploration. I left my first draft with hills and went for something that looked more uniform. Once again, I turned to the animal kingdom for inspiration and this time, I looked at octopuses and starfish as inspiration for a creature with several arms. But I did not want the form to resemble the animal in any other way than with the arms.

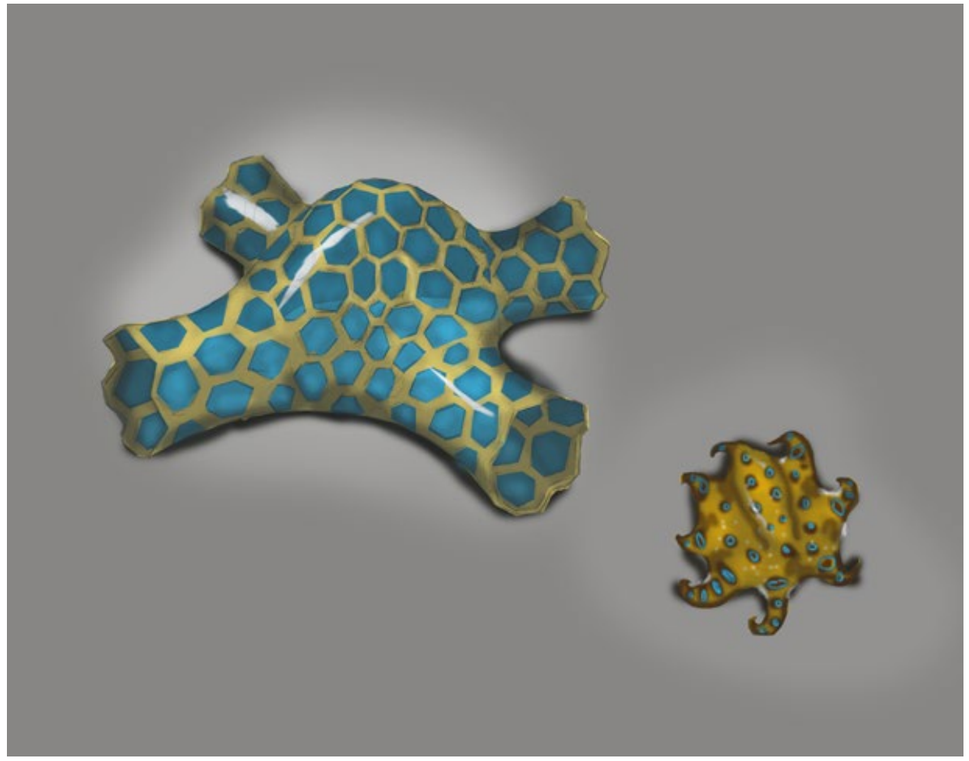
This led to that I in the end I decided for four tunnels that would lead you into one dome. This gives would give you several exits, and you could approach it from different ways.



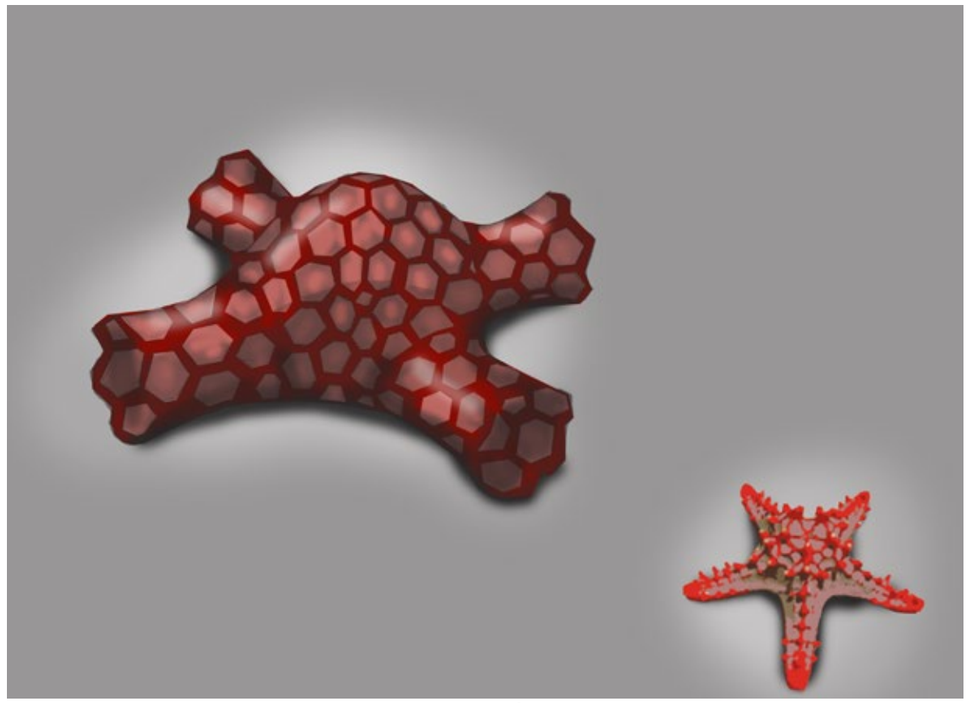
Jelly fish

Color exploration

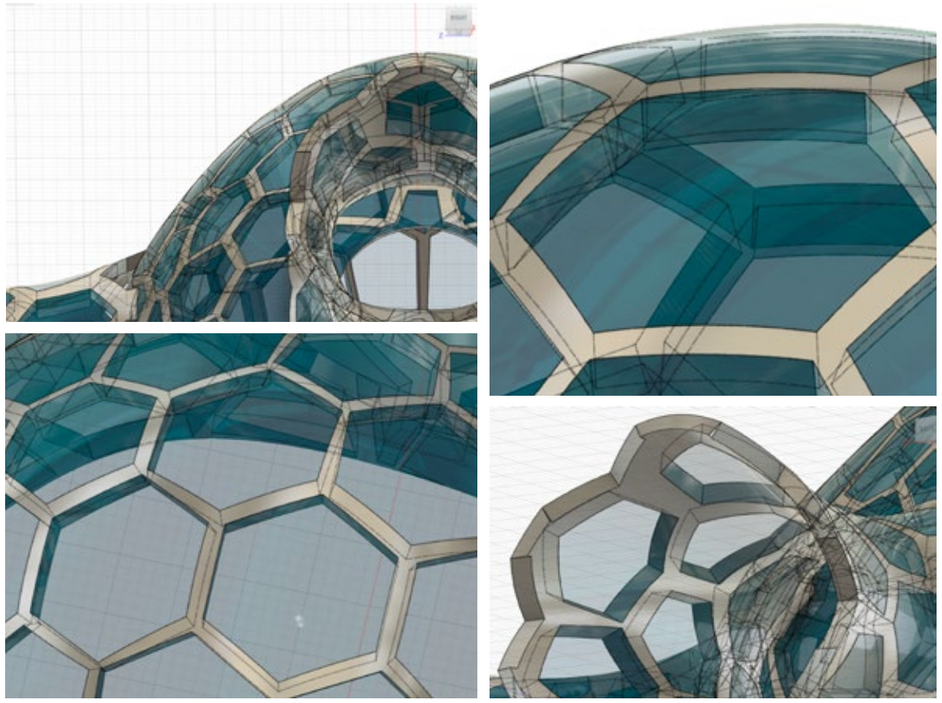
Microscopics was my inspiration for structure but I did not turn there for color. Instead I turned to the sea, a place which holds creatures we find very abstract and often with great coloration. Here you can see three sketches with a starfish, a blue ringed octopus and a jelly fish as color inspiration. The animals were chosen only because of their color and no other traits. At the end I went with the blue, because I thought it gave a calmer and more neutral look, that would contrast nicely with a green environment. But also because I thought it suited well together with its four arms to be taking inspiration from an octopus.



Blue ringed octopus



Star fish

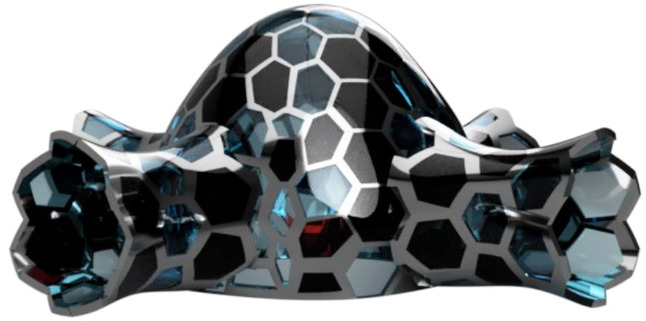


3D model in the process

3D model

It was time to make a 3D model to get into details and see all the steps put together. This was not the easiest to make due to the hexagon pattern that I had to do one by one in some parts, but eventually I got it all together. The model was made in Fusion 360 due to being user friendly and a program that was available to me from home during the Covid-19 situation. The model is made to look like it is made out of stainless steel that has been welded together. Steel was chosen because of its durability and low maintenance. Beneath there is blue glass in each individual hexagon to create the light impression but still with spatiality.

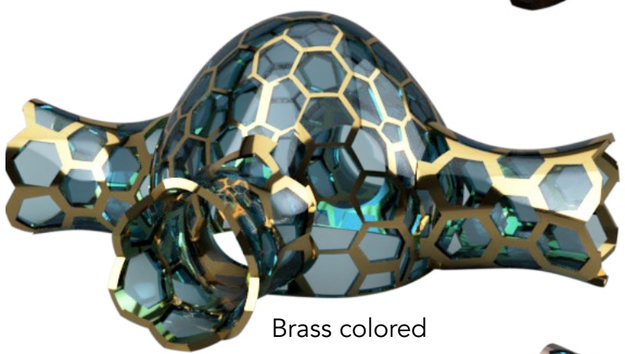
There is a gap between glass and steel and makes the structure pop out above the glass. I had already decided for color and materials, but took the opportunity to try out with other alternatives to see what it would look like. Luckily, I still felt that my indented materials was the way wanted to go. But I felt a bigger interest in wood than before, because it gave a warm impression and I felt that it could it could be something to further investigate.



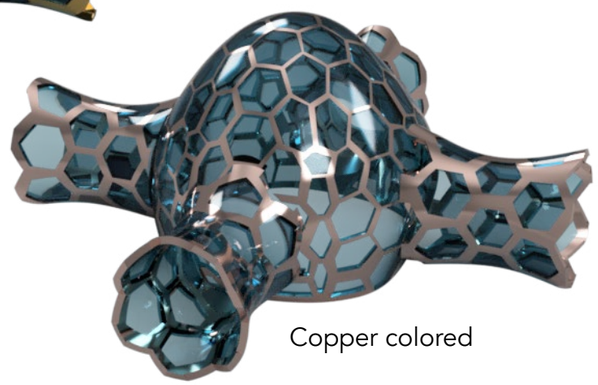
Taking away som panels which are see-through

Wood structure, light

Wood structure, dark



Brass colored



Copper colored

Result

Beehive

This is Beehive, the project name I gave it due to its hexagon structure. A hybrid between a sculpture and a playground equipment, that should be able to work as both. Here it is as my finished 3D-model, in its intended environment with lots of greens around. The idea is that the environment would reflect itself in the glass and structure and therefore in a way become a part of it. Also, when inside the dome the environment should feel present. The glass is colored blue to color its inside and therefore create a wow-effect when entering, it's should feel like another world in a way. The glass also works as a transparent divider which will give you the feeling of some privacy and spatiality, but still give a good overview for parents. This is my creature of imagination, one-part microorganism, one-part water creature and one-part hybrid between the two.

Is it a spacecraft, a café or a home? That's for your imagination to find out.

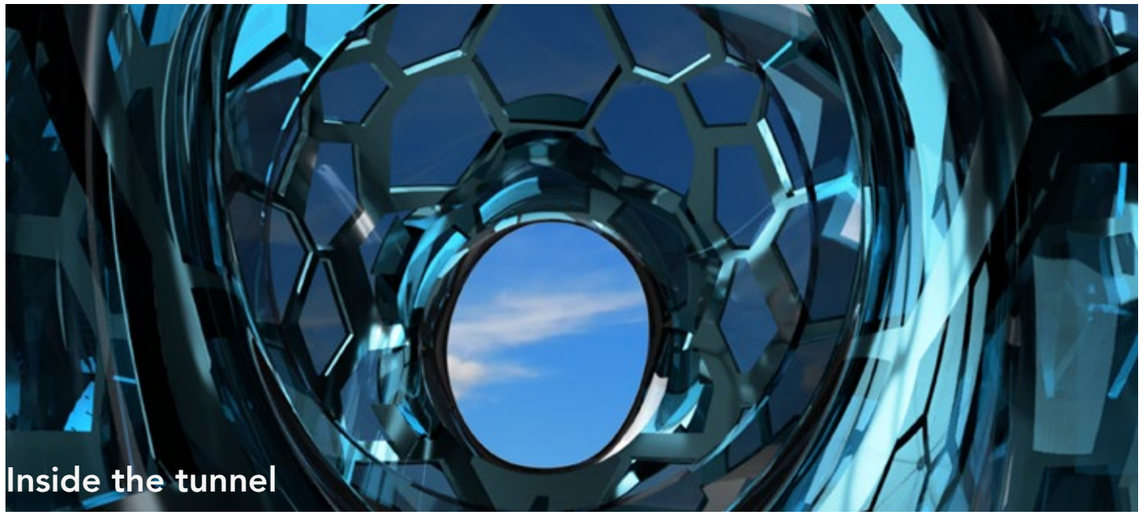
As you can see when I was building this montage of children playing on it. I realized how inviting it look to climb on even if it was not what I indented from the start. And if it something I really brought from my meeting at Malmö stad, is that children often use the playgrounds in ways you do not expect. So, this is something I would like to explore more and make it safe to climb. This would also open up for difficulty levels and create a fun challenge, do you dare to climb to the top or do you settle with climbing an arm? The object would then be able to fulfill to of the main categories, hide and climb, in the same body and that would be interesting to further investigate.

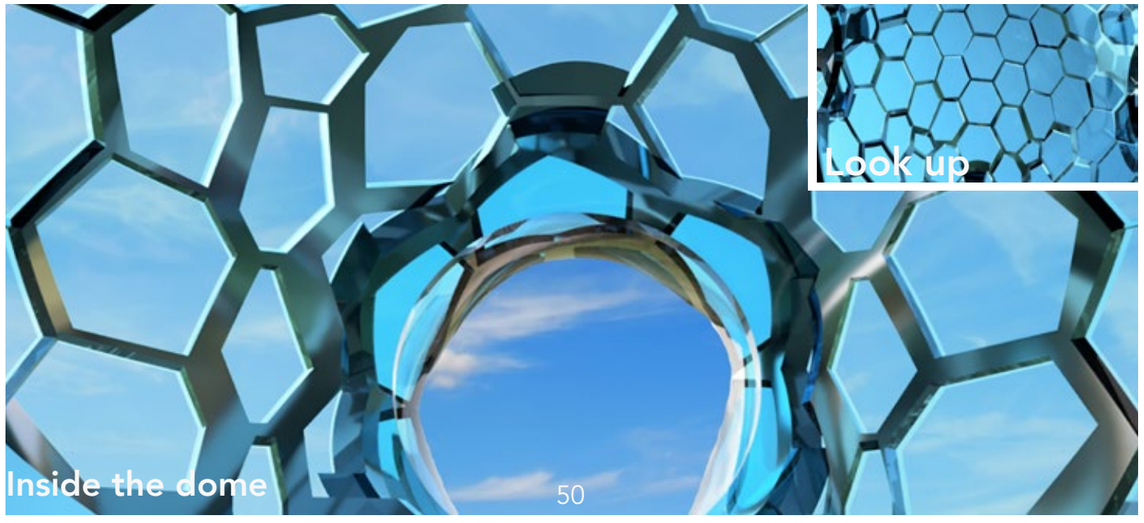
Experiencing Beehive

The experience

Due to the Covid 19 pandemic I could not build a detailed physical miniature model as intended so instead I had to try to show as much as possible with the 3D model. I made some renderings in Fusion 360 to try to show how the playground equipment would be to approach and enter. Like previously mentioned I wanted the shape to draw attention and make you curious, wanting to enter and explore. Inside the dome it should feel exciting because you dared to go inside and go through the tunnel which led to this little world colored in blue. When looking through the glass the world outside will now look different through the blue glass and hopefully lead to imagination spiraling.

Here on the left side you can see four renderings that will try to show how you what you could expect seeing when entering the playground equipment divided into four steps.





Development

Future of the project

I have always worked from the idea that this would be placed in a park with other playground equipment around but I think it would be interesting to investigate if it would have been placed by itself in a city environment. A way to break of into play in an unexpected area. The sculptural effect I believe would make it easier to accept it in that environment too.

I would also like to look further into lighting so the dome would feel inviting and interesting even when the natural light is fading. This is something I thought about throughout the project but due the Covid-19 pandemic that led to that I could not build a model I could not try out lighting and therefore decided that it would be something to explore further on.

This is also just one object that fulfills one of the playground needs, so I would like to continue to look into how a complete playground would look like in the the same theme. This would make it easier to evaluate the result if an abstract theme on the playground could lead to freer imagination and play.

City enviroment

Lights during the night

Evaluation

Evaluation

This project has overall been very fun, and I have truly enjoyed the process. I feel like the world of toys and play for children interests me a lot and I will continue to look into it and try to learn even more. I truly enjoyed how my project was on the borderline of design project and an art project, it was fun to balance and to find a clear purpose in an abstract form.

Due to the current Covid 19 situation the project did not become exactly as intended when everything needed to be done from home. But with the situation in mind I feel pleased with the result and it was an experience to see what you can achieve with simple methods. What I truly bring with me from this situation is how much I have missed my classmates and the daily interaction we have when talking about our projects and give each other input. This input is extremely valuable to bring the project forward and the process now became a bit slower without it.

I bring new knowledge with me from this project, especially in 3D modelling which were a great challenge to me. I hope I can return soon to the creative world of play again.

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