

MELT LAB
candles

Whats in the Book?

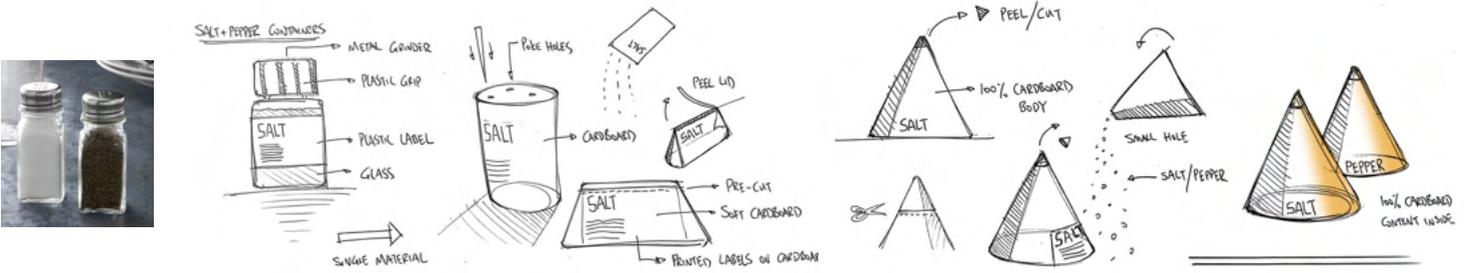
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Sarah Song Strat. Assignments	10 - 29
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Wk 7-10 Research + Ideation Phase	85 - 124
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Johannes Lu

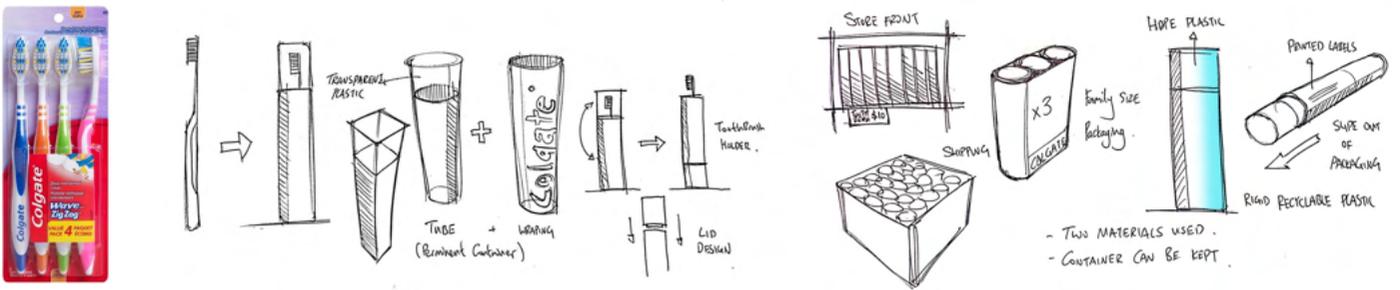
Strategy Assignments

Strategy Assignment 1

1/ Single Material - Salt and Pepper Packaging

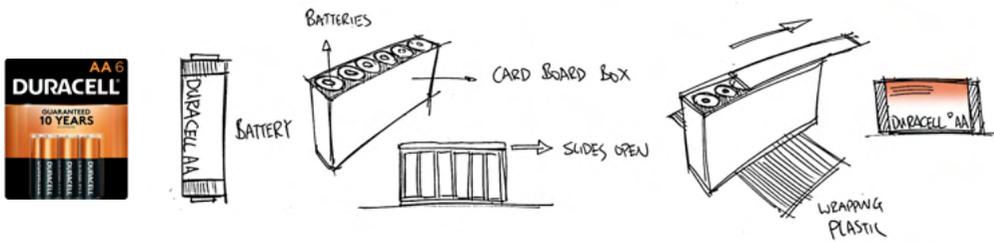


2/ Dematerialized Makover - Colgate Toothbrush



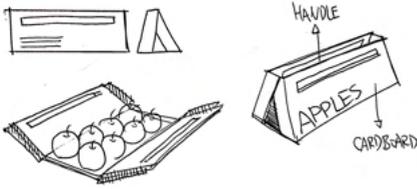
3/ Ultra-Minimalist Challenge

Salt and Pepper Shaker

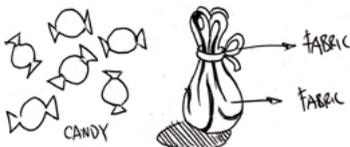


Strategy Assignment 2

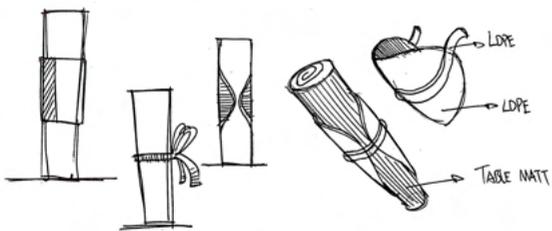
1/ Power of 10 - Grocery Box - Cardboard



2/ Repurposed - Candy Pouch - Fabric

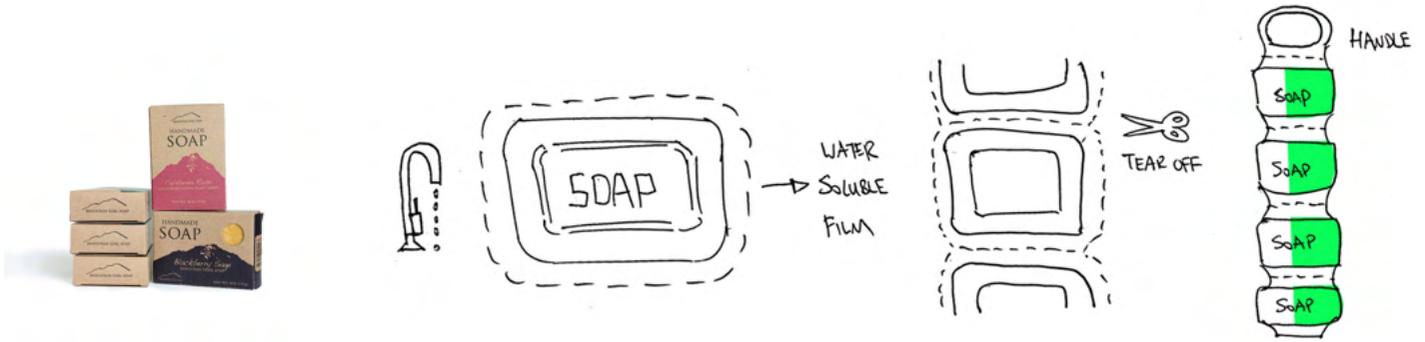


3/ Recycled - Table Matt Wrap Packaging - LDPE Cream Cheese Container Lid

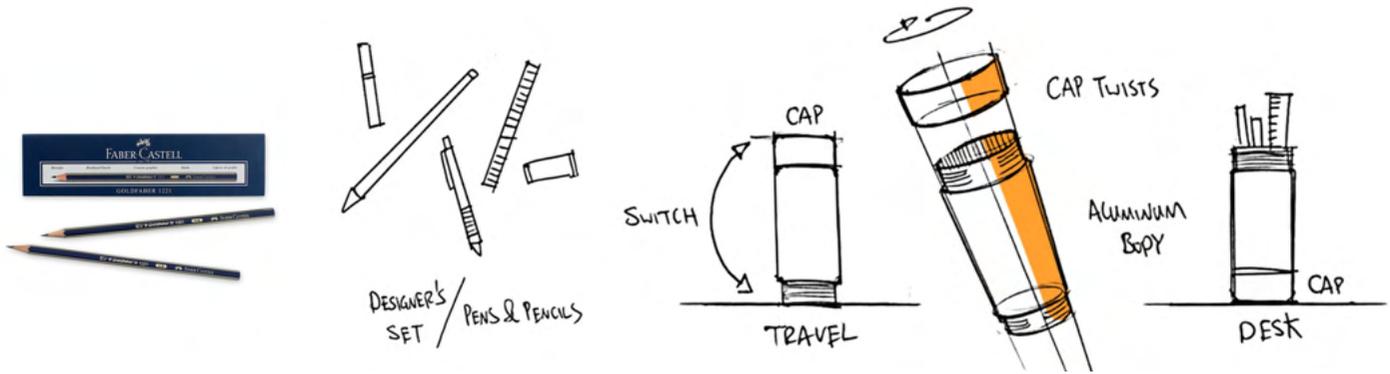


Strategy Assignment 3

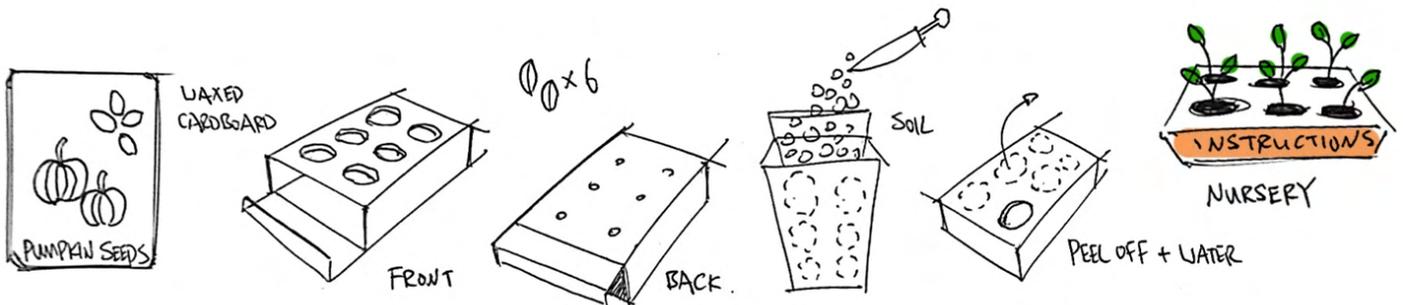
1/ Ephemeral - Water Soluble Soap Packaging - Polyvinyl Alcohol



2/ Forever Friend - Aluminum Pencil Packaging/Case/Holder

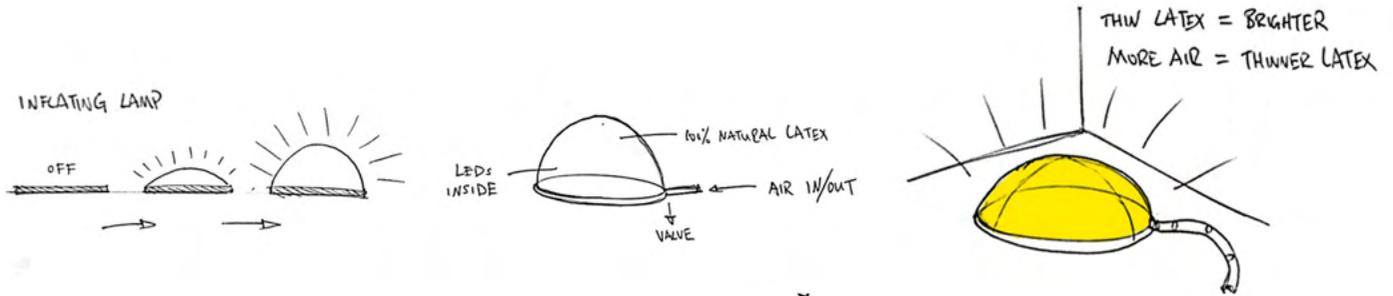


3/ Pumpkin Seed Box - Cardboard Plant Nursery

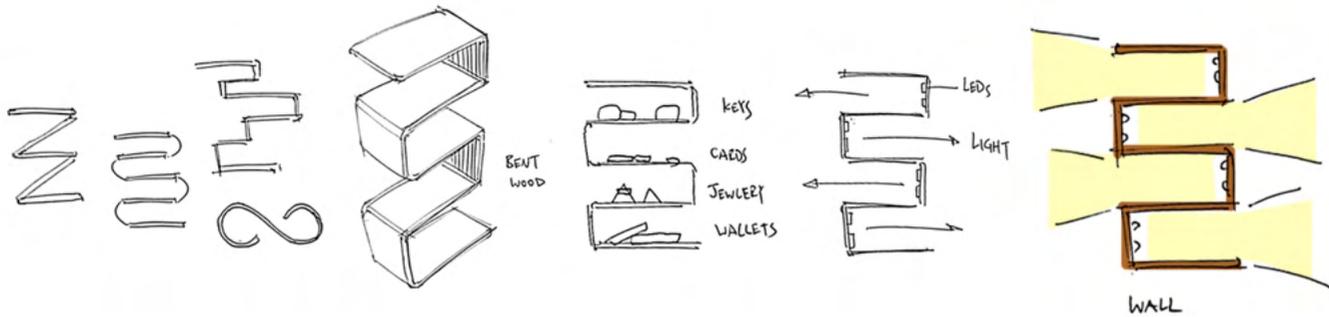


Strategy Assignment 4

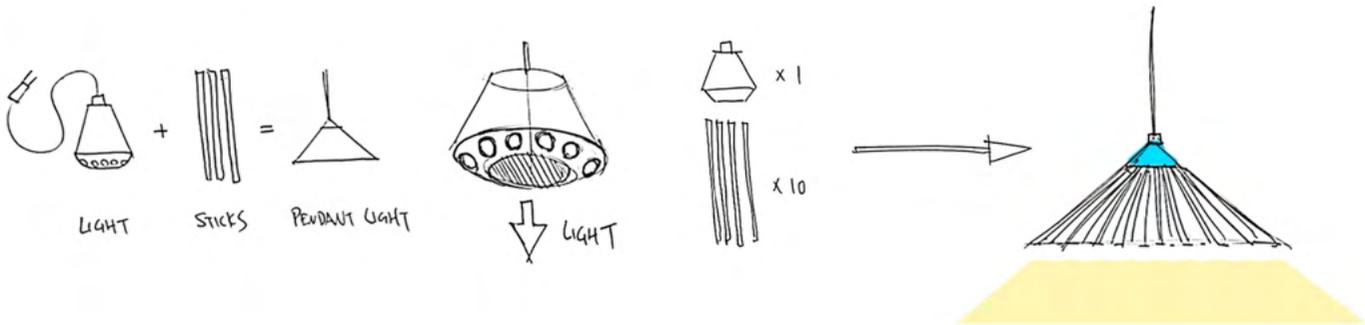
1/ Inflatable Night Light - Biodegradable Natural Latex



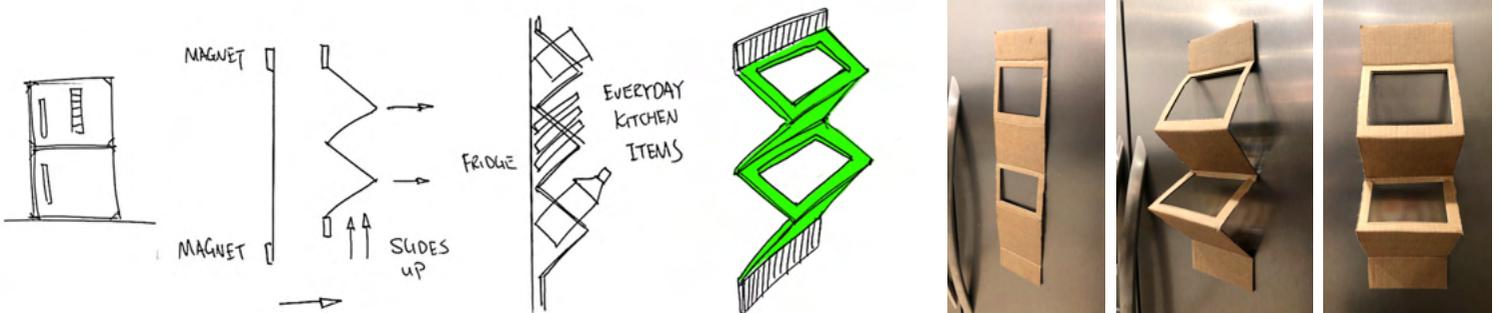
2/ Front Door Wall Cabinet - Bent Plywood



3/ Self Assembling Pendant Light

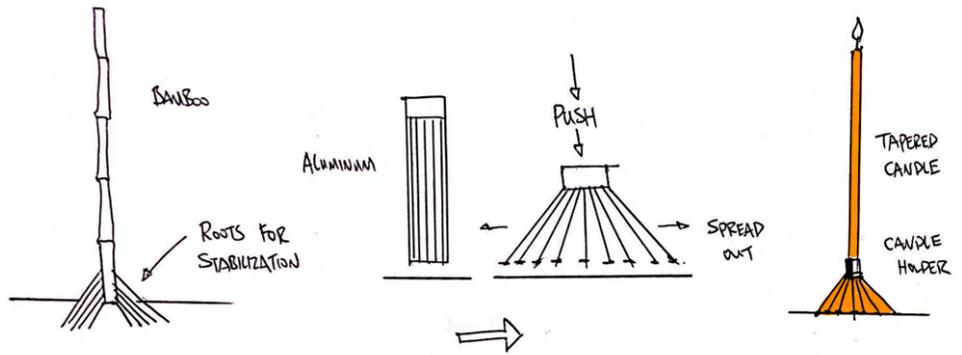


4/ Refrigerator Magnetic Storage Space - HDPE



Strategy Assignment 5

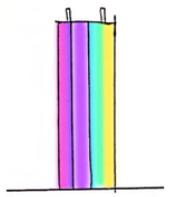
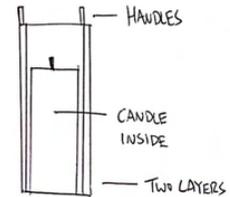
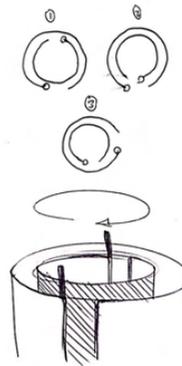
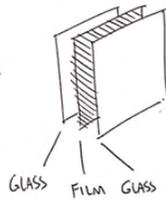
1/ Function: Stabilizing "Roots"



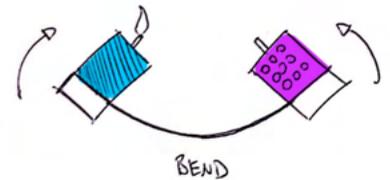
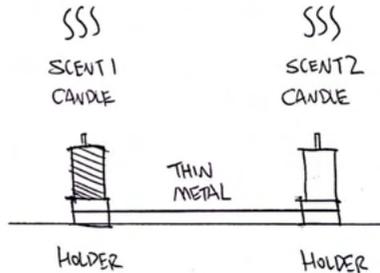
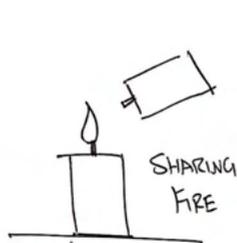
2/ Function: Layers of Iridescent Film



MULTI LAYER SHELL CREATING COLORS



3/ Function: Sharing Fire



Strategy Assignments

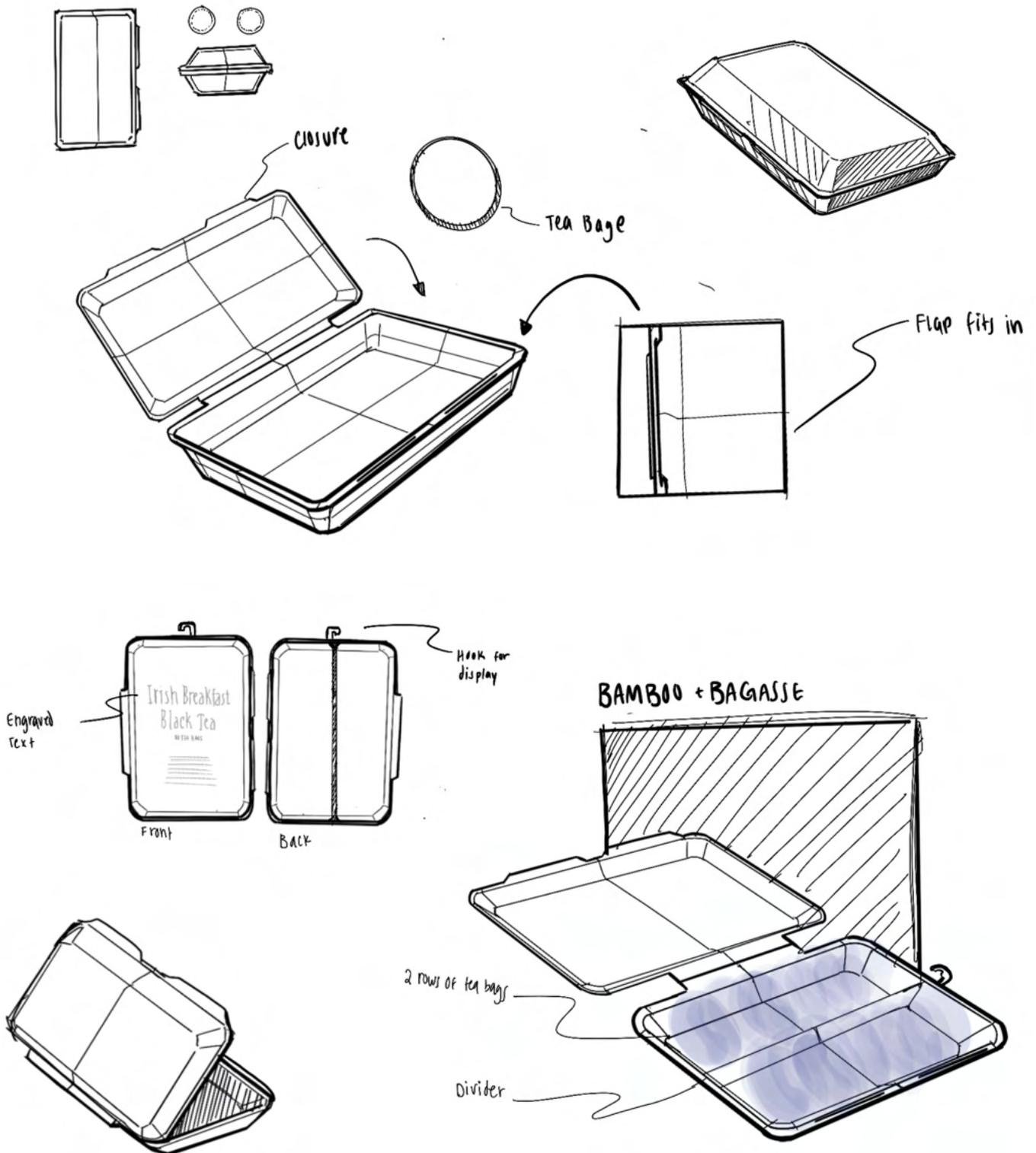
PD 6 SP2021

Sarah Song

Dematerialization

Single Material

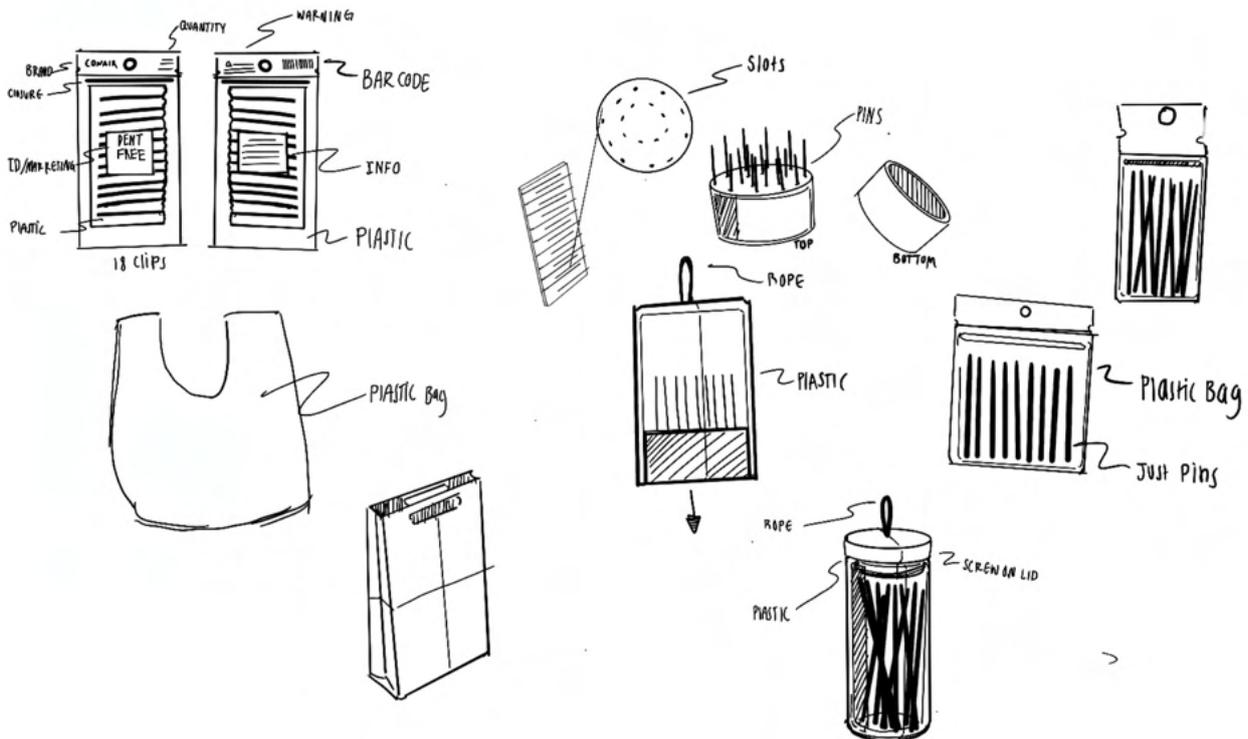
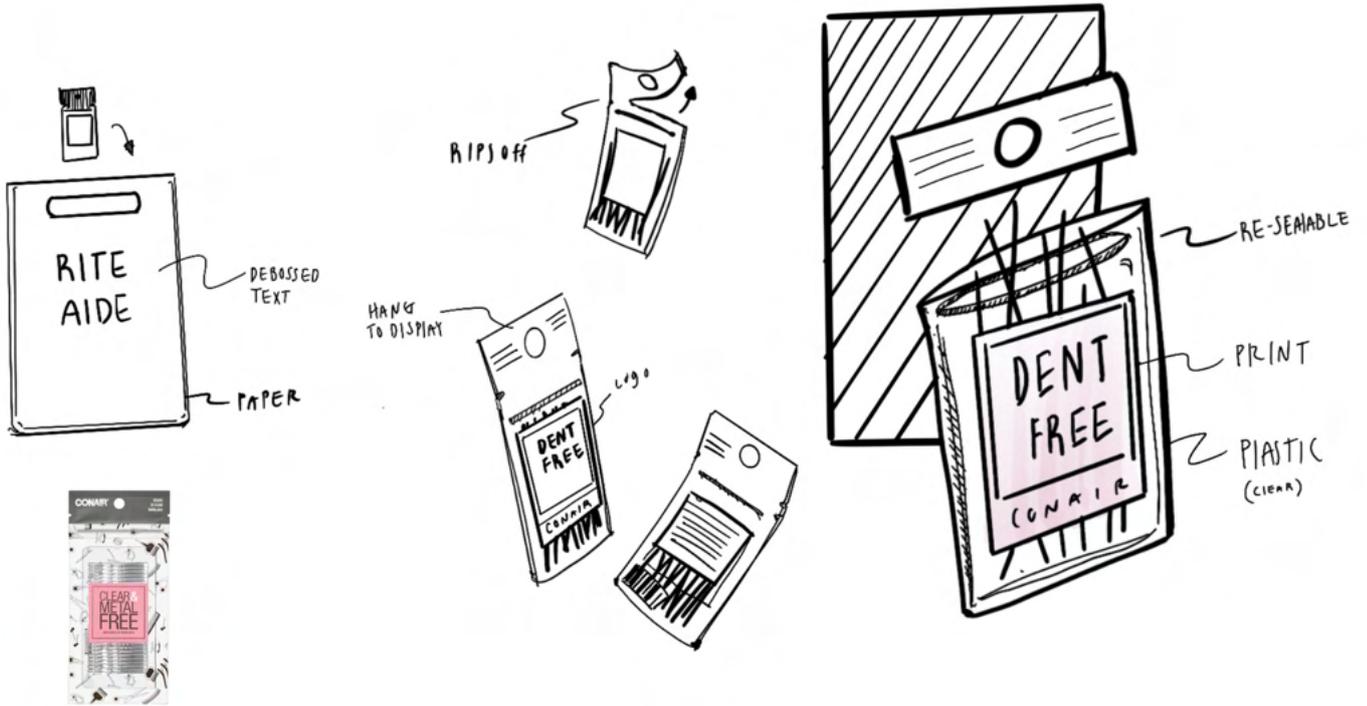
Sarah



Dematerialization

Dematerialized Makeover

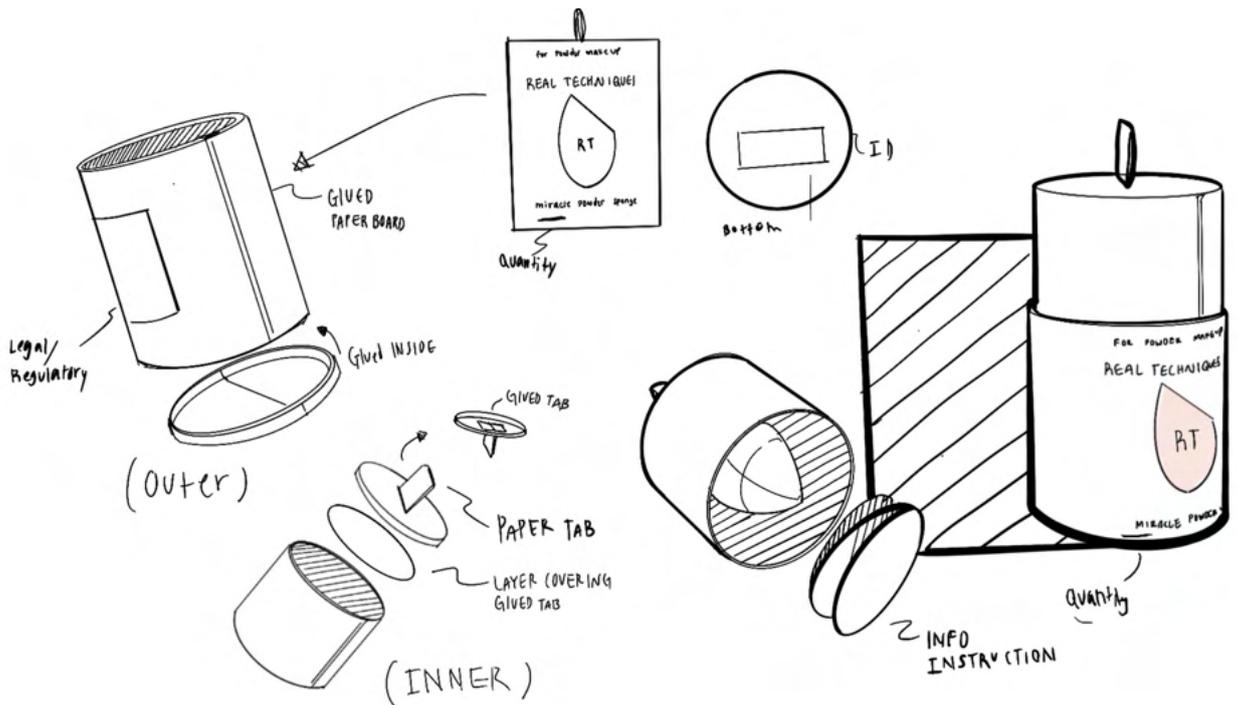
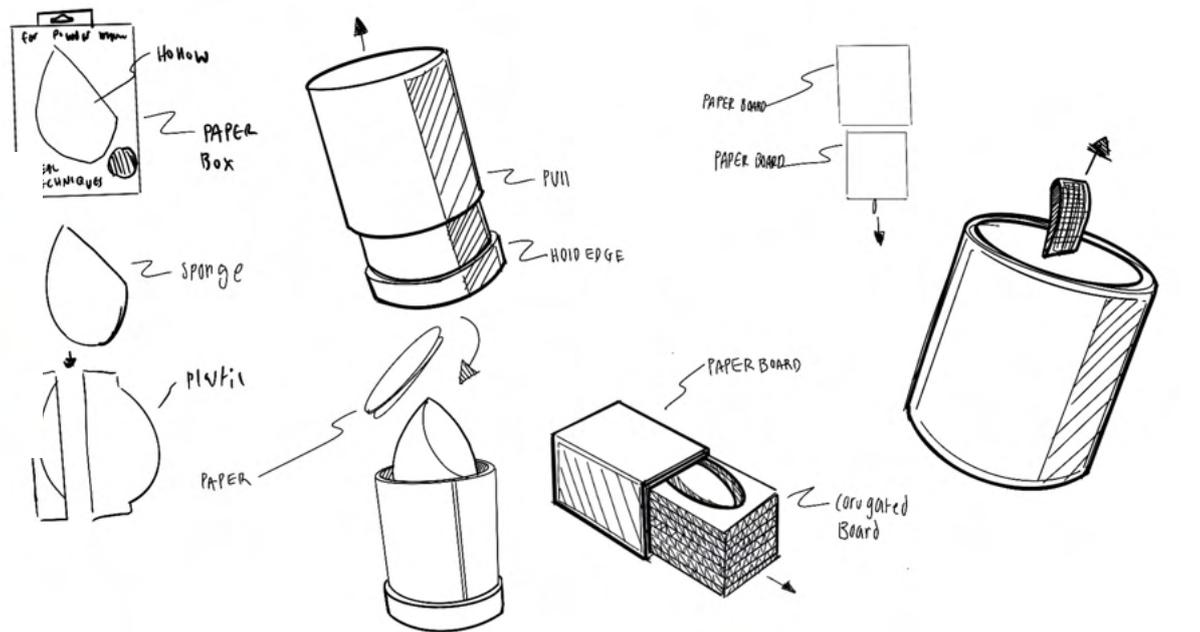
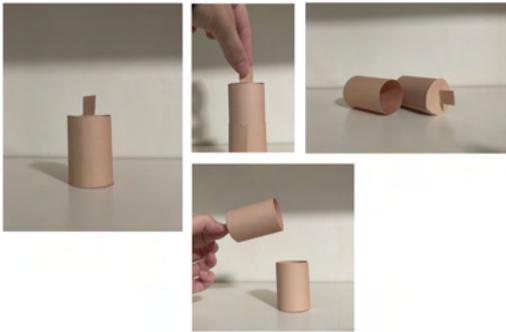
Sarah



Dematerialization

Ultra Minamalist

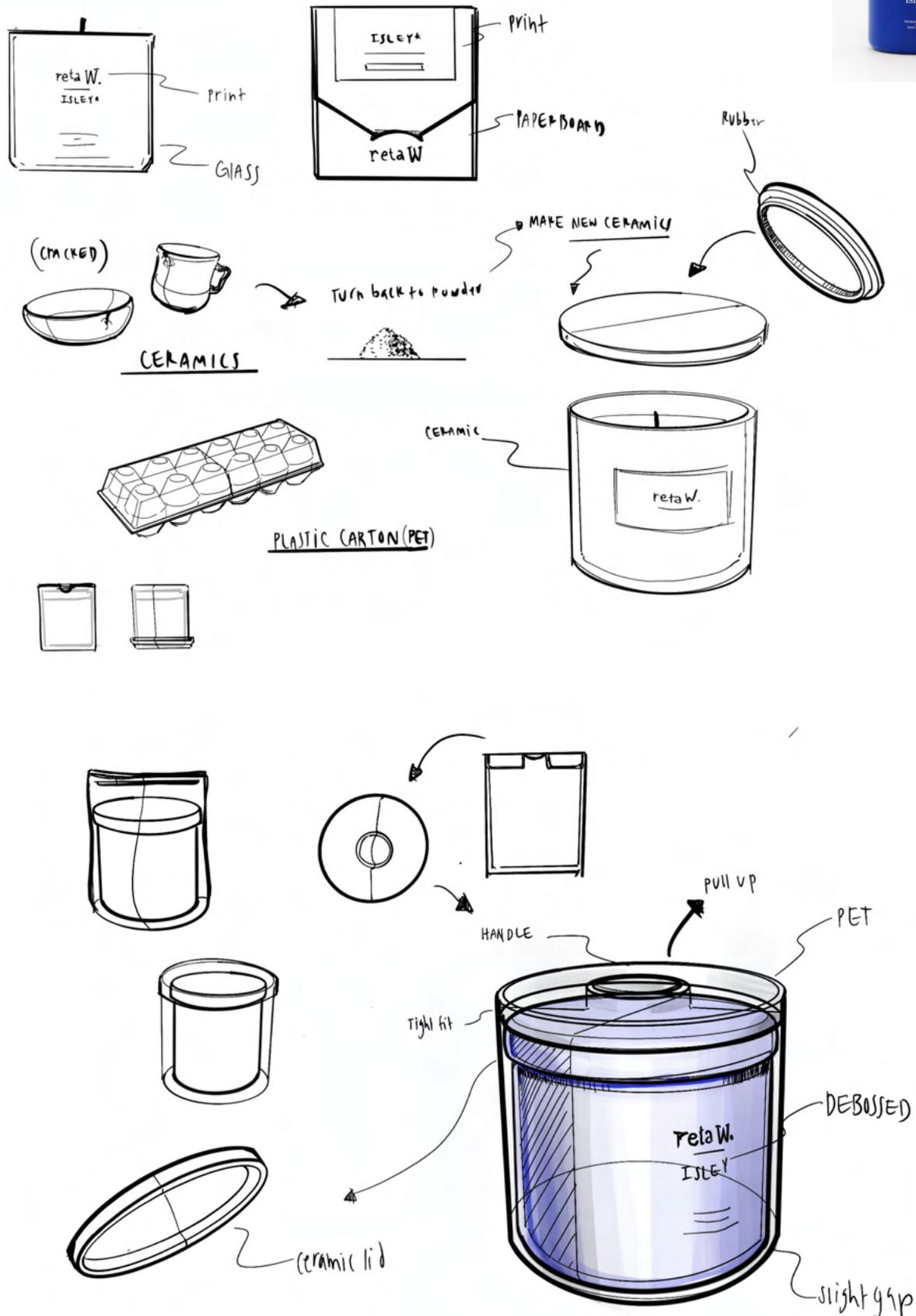
Sarah



Rematerialization

Power of 10

Sarah



Rematerialization Repurposed

Sarah



Rematerialization

Recycled

Sarah

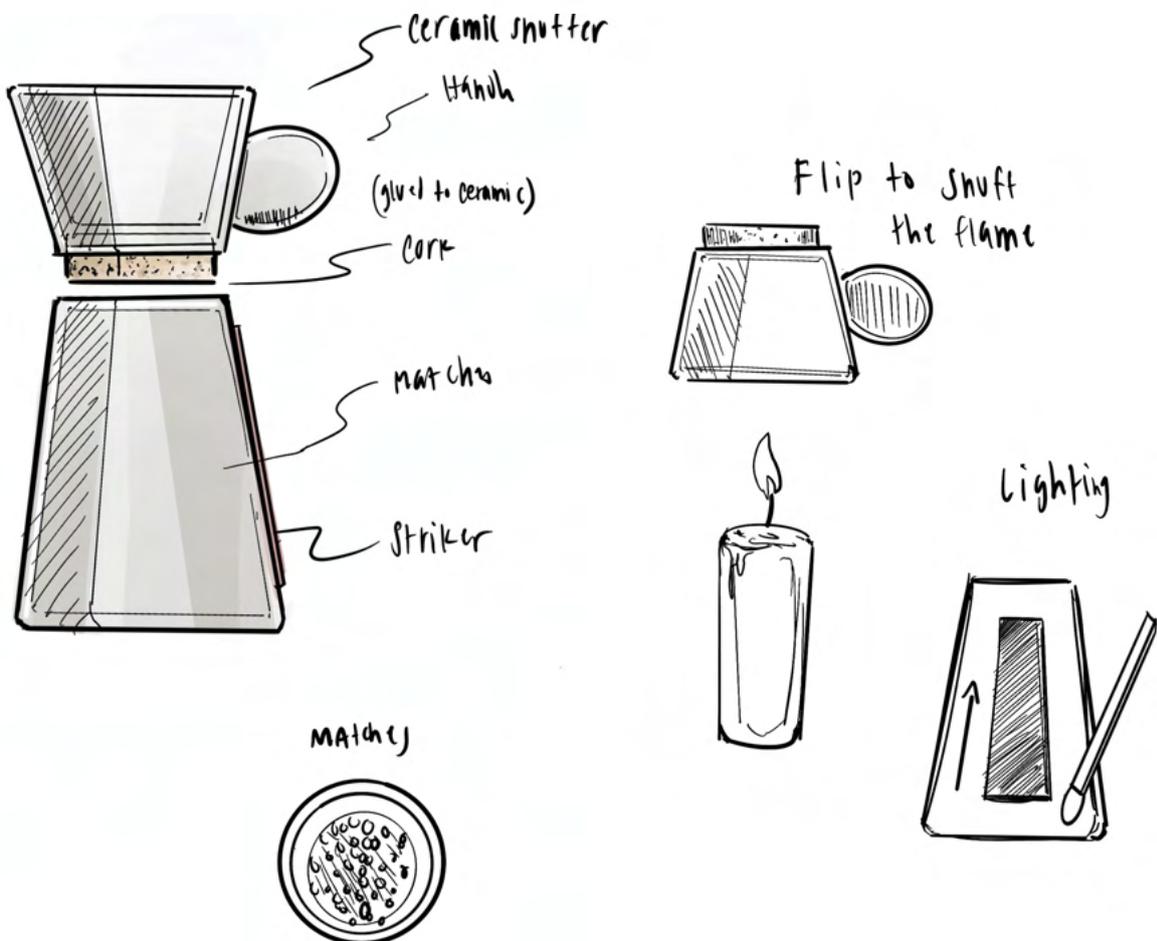
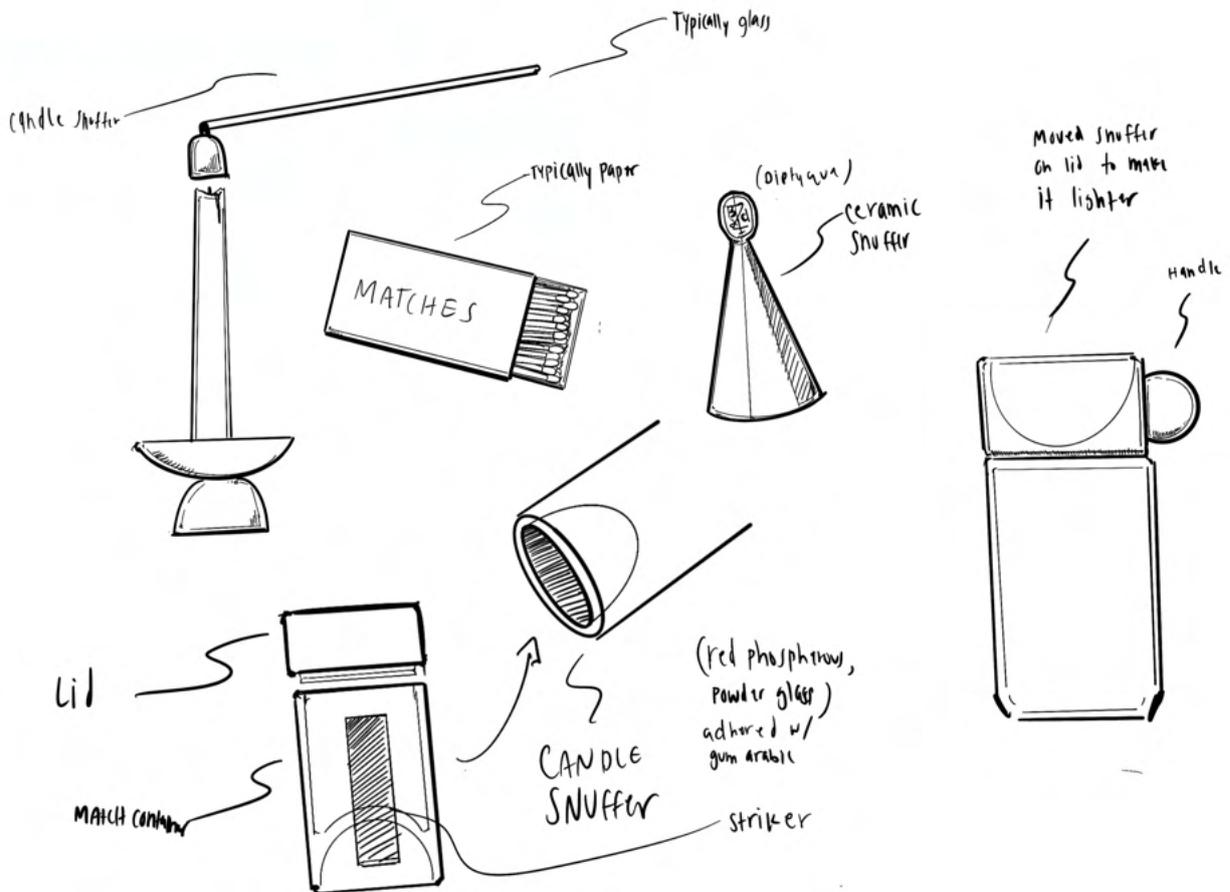


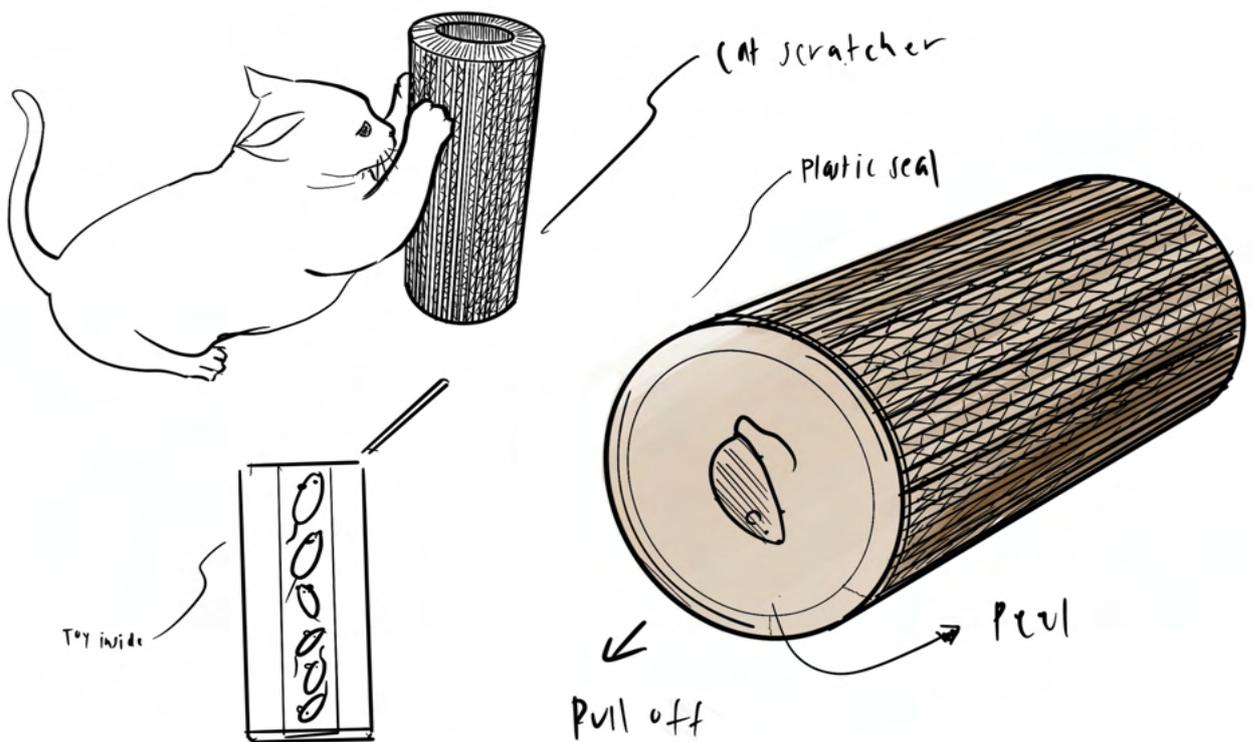
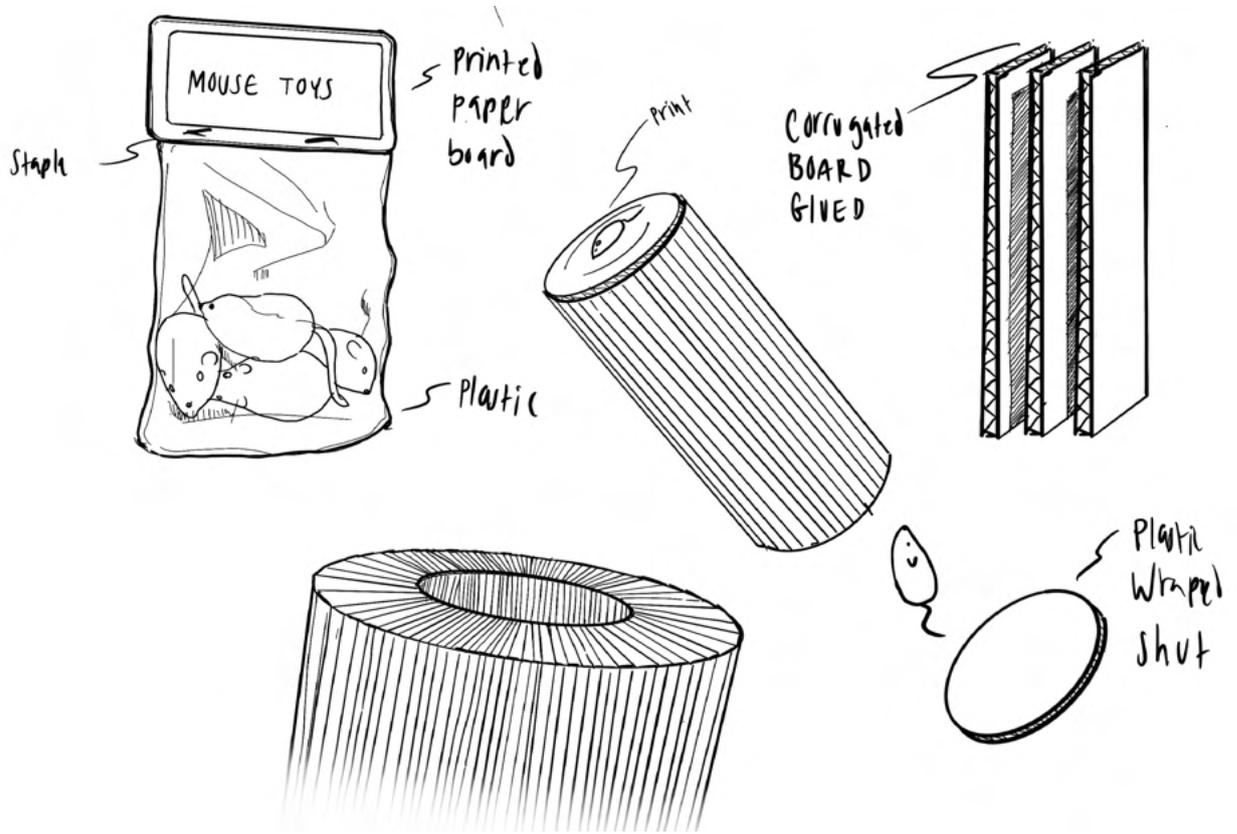


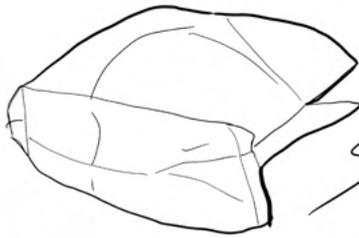
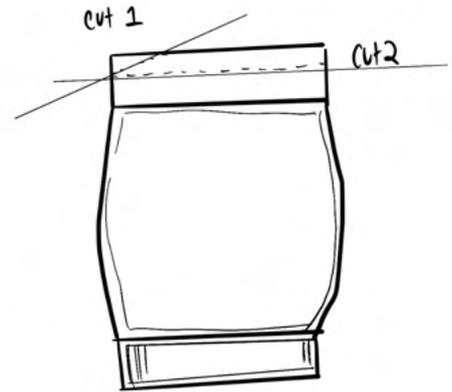
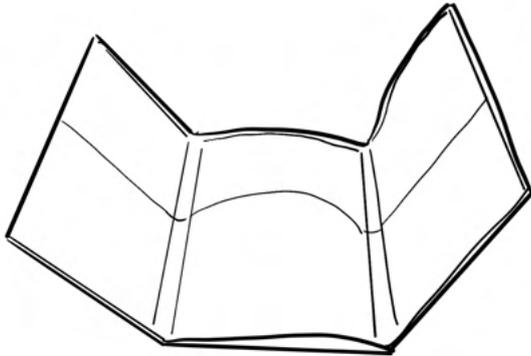
Lifespan

Forever Friend

Sarah

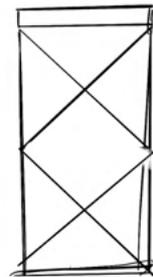
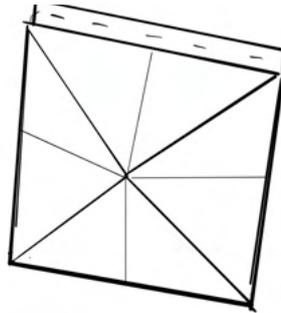
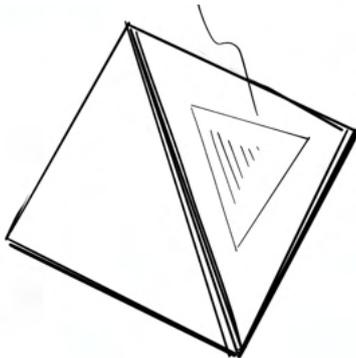
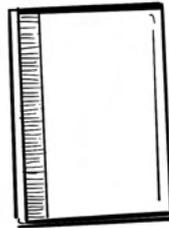




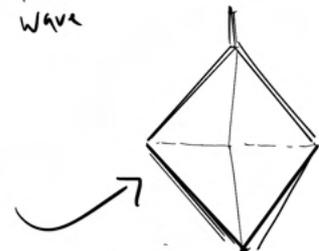
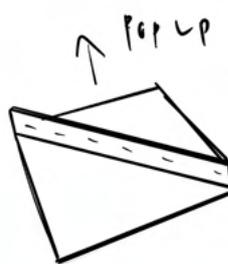
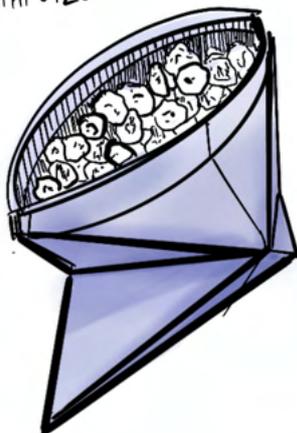


Size too big
for 1 person

TRIFOLD



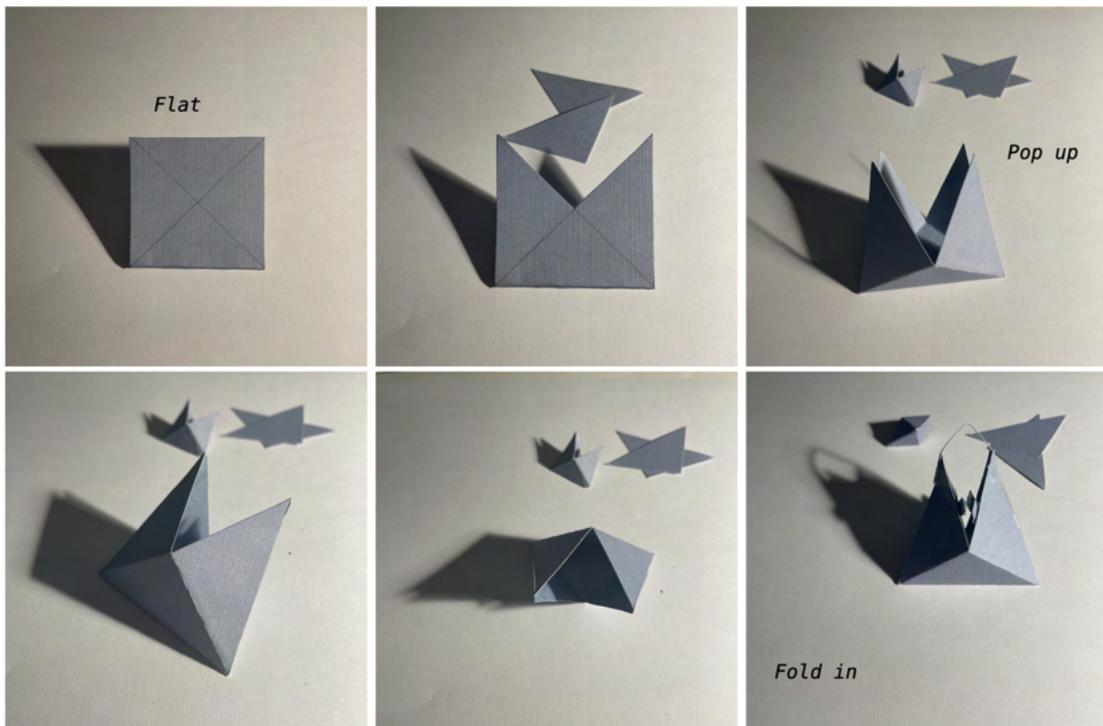
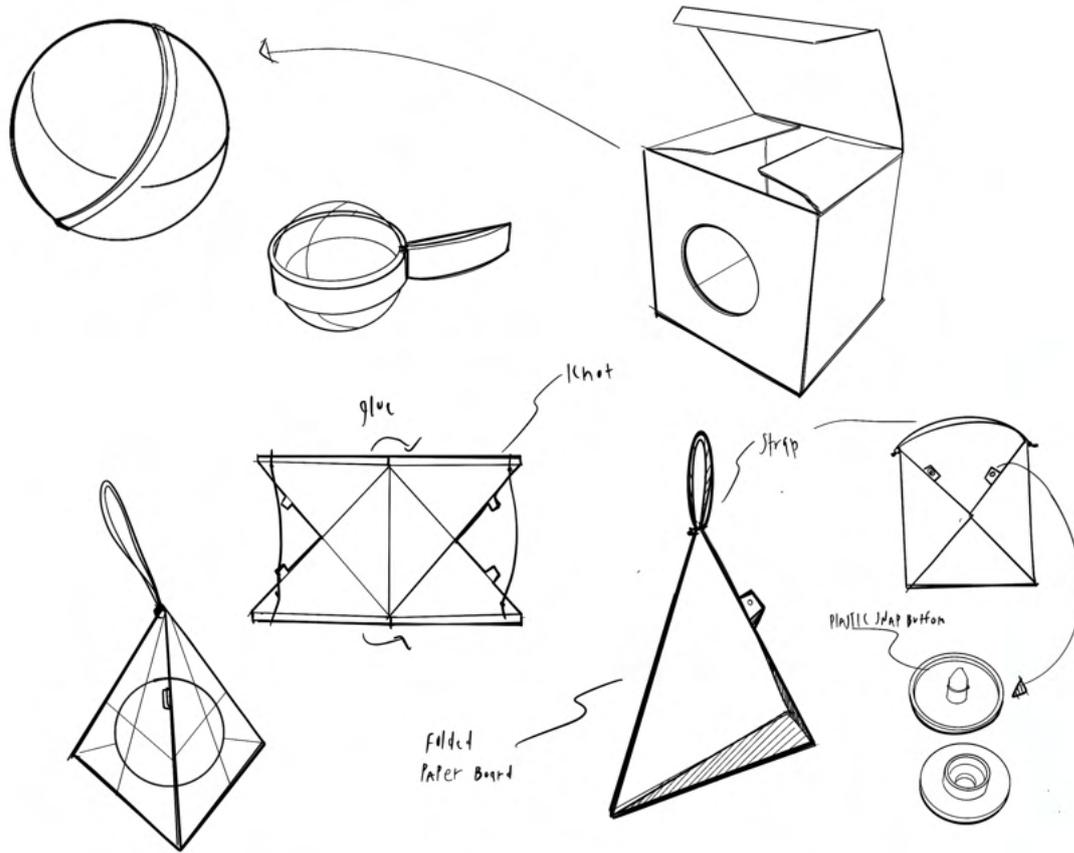
Mini size



Footprint

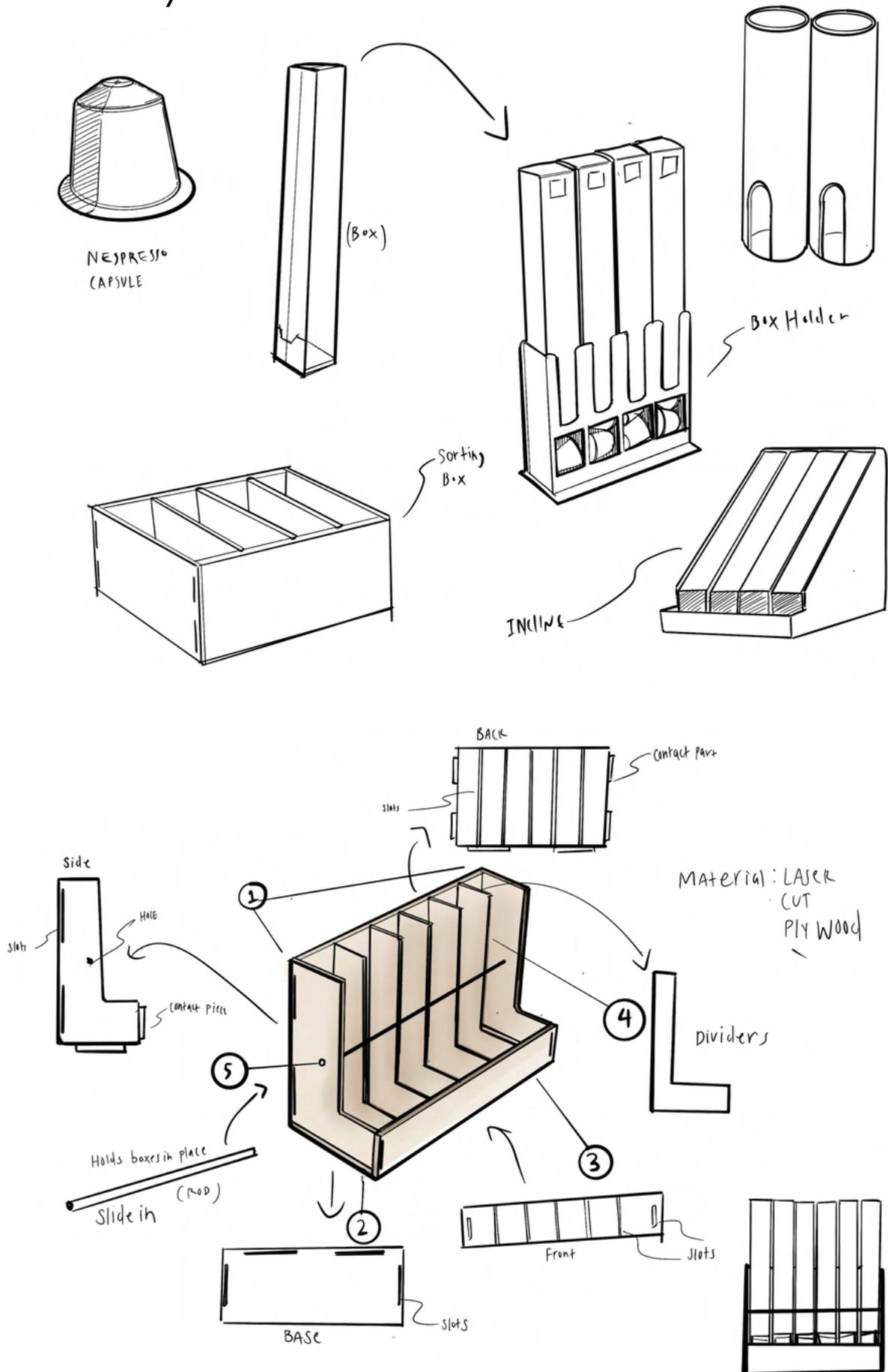
2D to 3D

Sarah



Footprint User Assembly

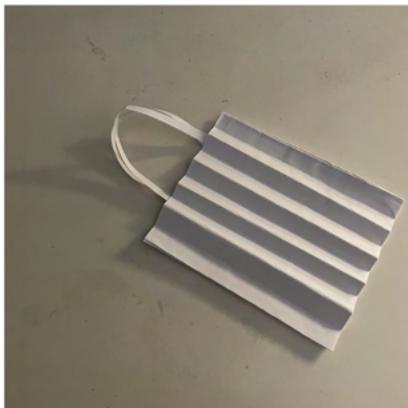
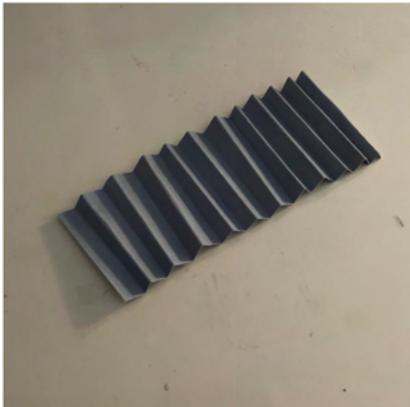
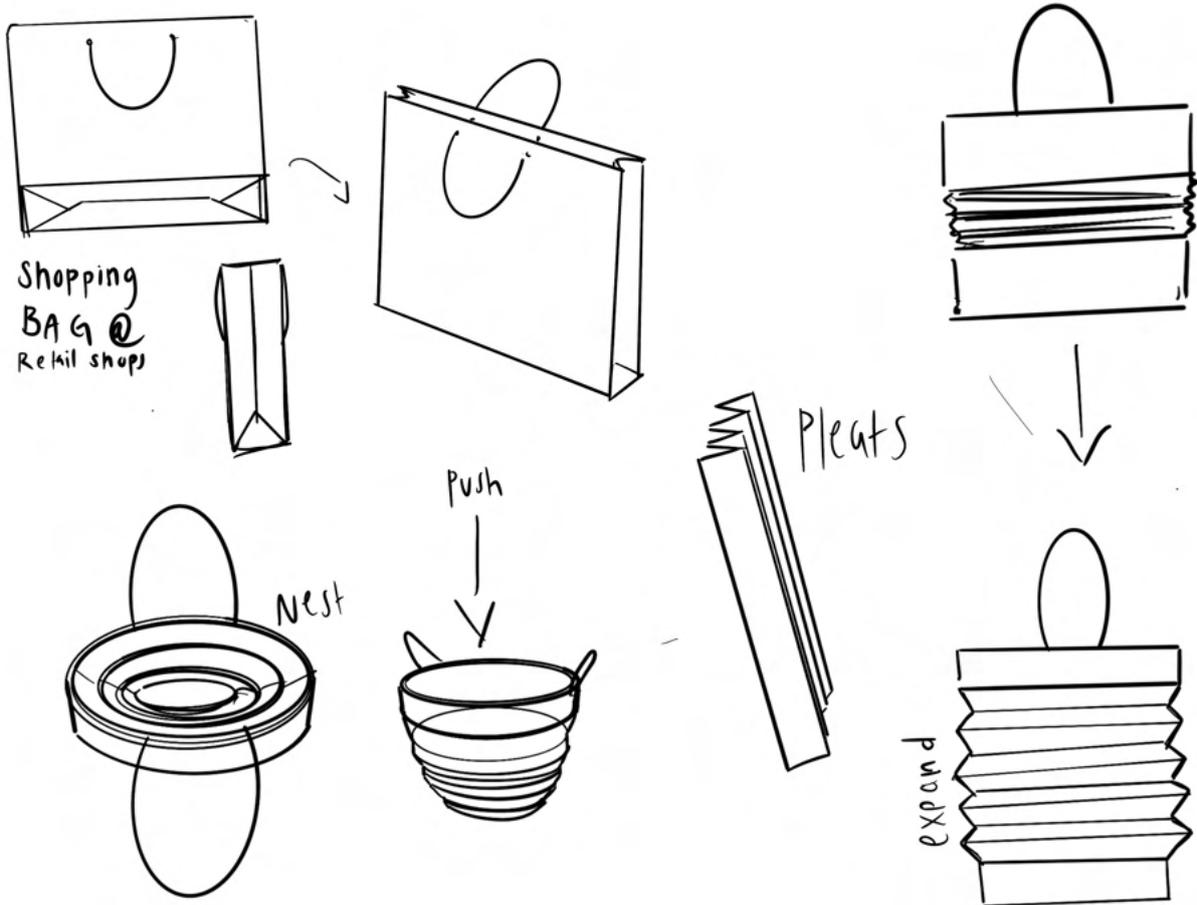
Sarah



Footprint

Ship and Store

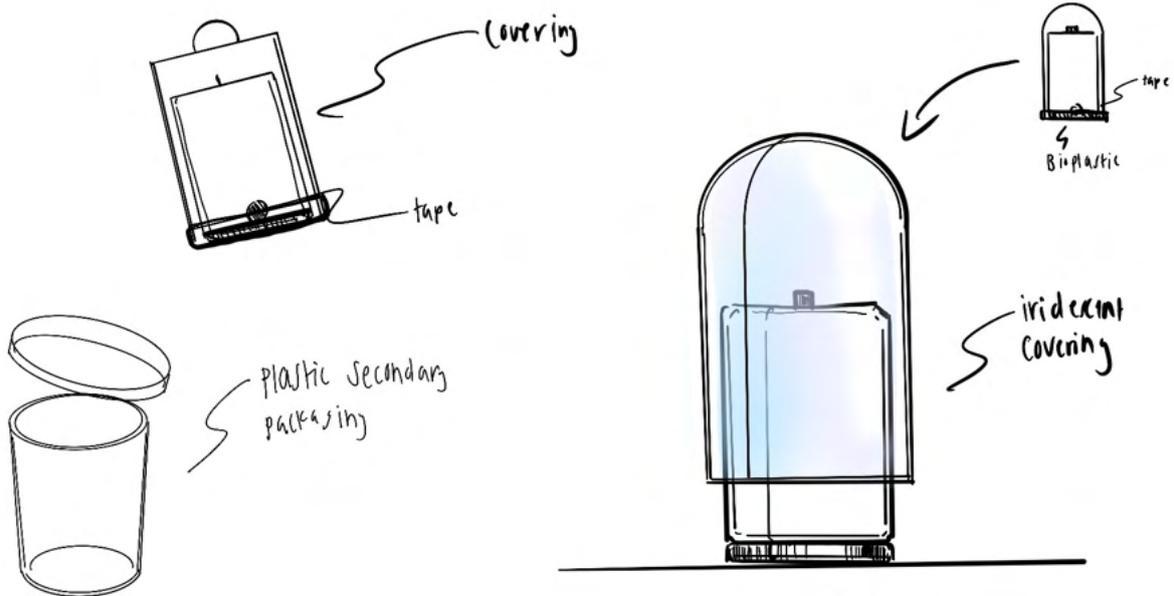
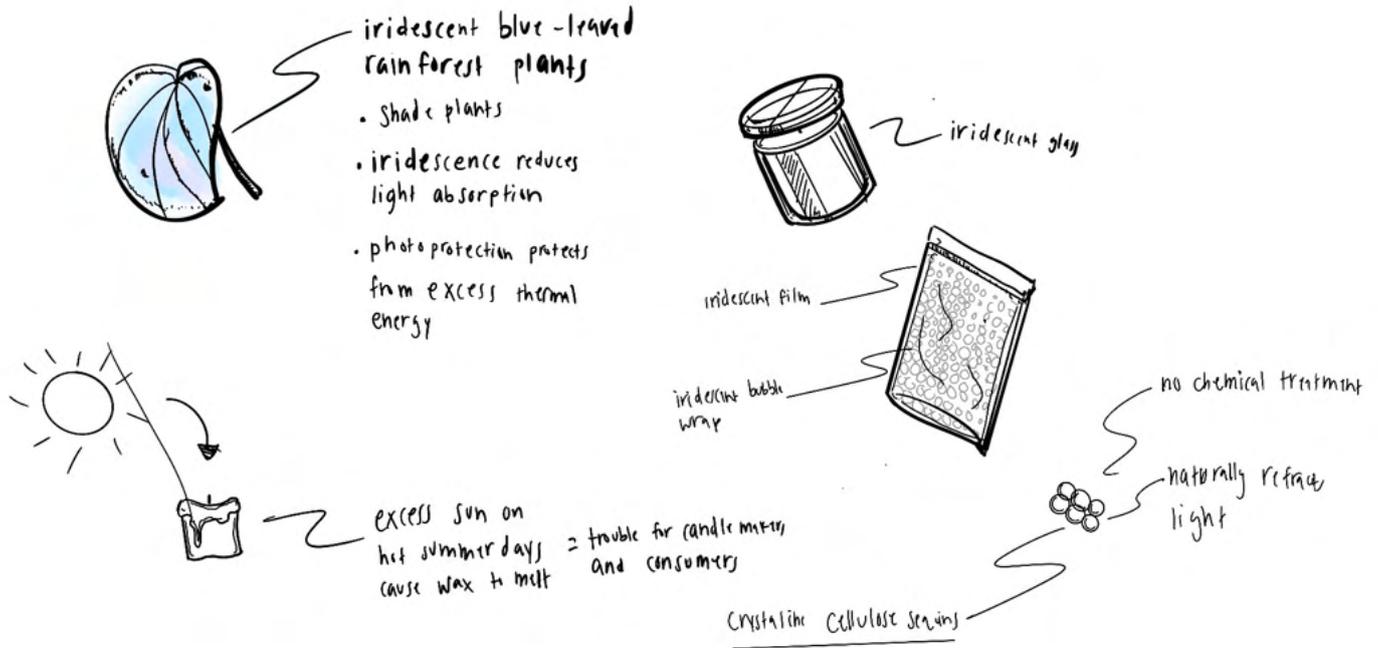
Sarah



Biomimicry

Protect From Physical Harm

Sarah

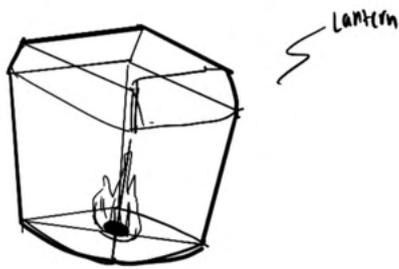


Biomimicry

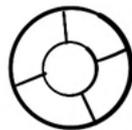
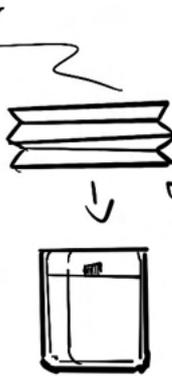
Function

Sarah

Mimosa pudica (What if the heat from a candle causes a reaction?)



folded paper



wire frame under paper



wax coated rice paper



"Lamp Candle"

expand w/heat

glass vessel



Biomimicry

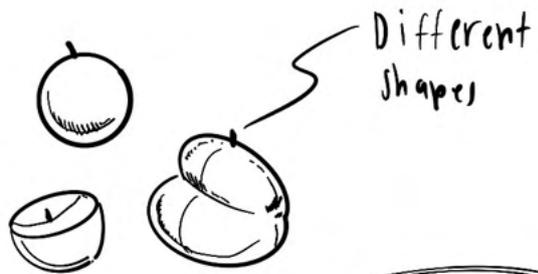
Maintain Community

Sarah

Staggered flowering times



Coordinating flowering time increase likelihood of successful pollination by reducing competition

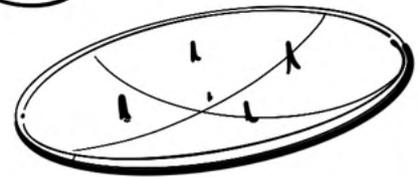


Improve longevity of 1 candle

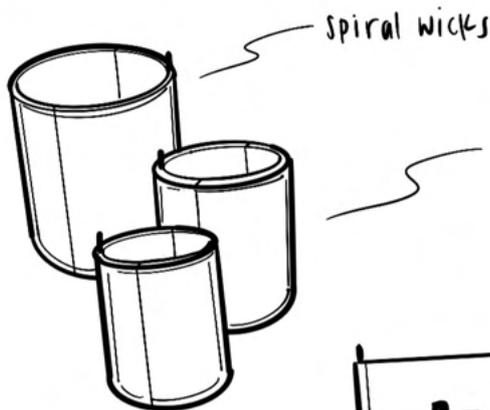


a reason to light and own more

How might we stagger candle lighting times?



Tray

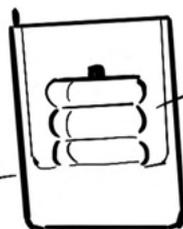


each candle has a different mood

2nd candle

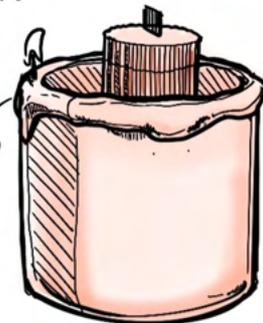
reveal candles

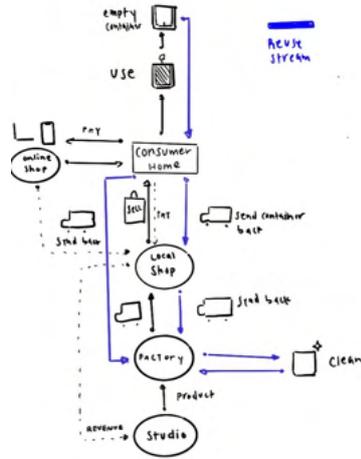
Simple outer form



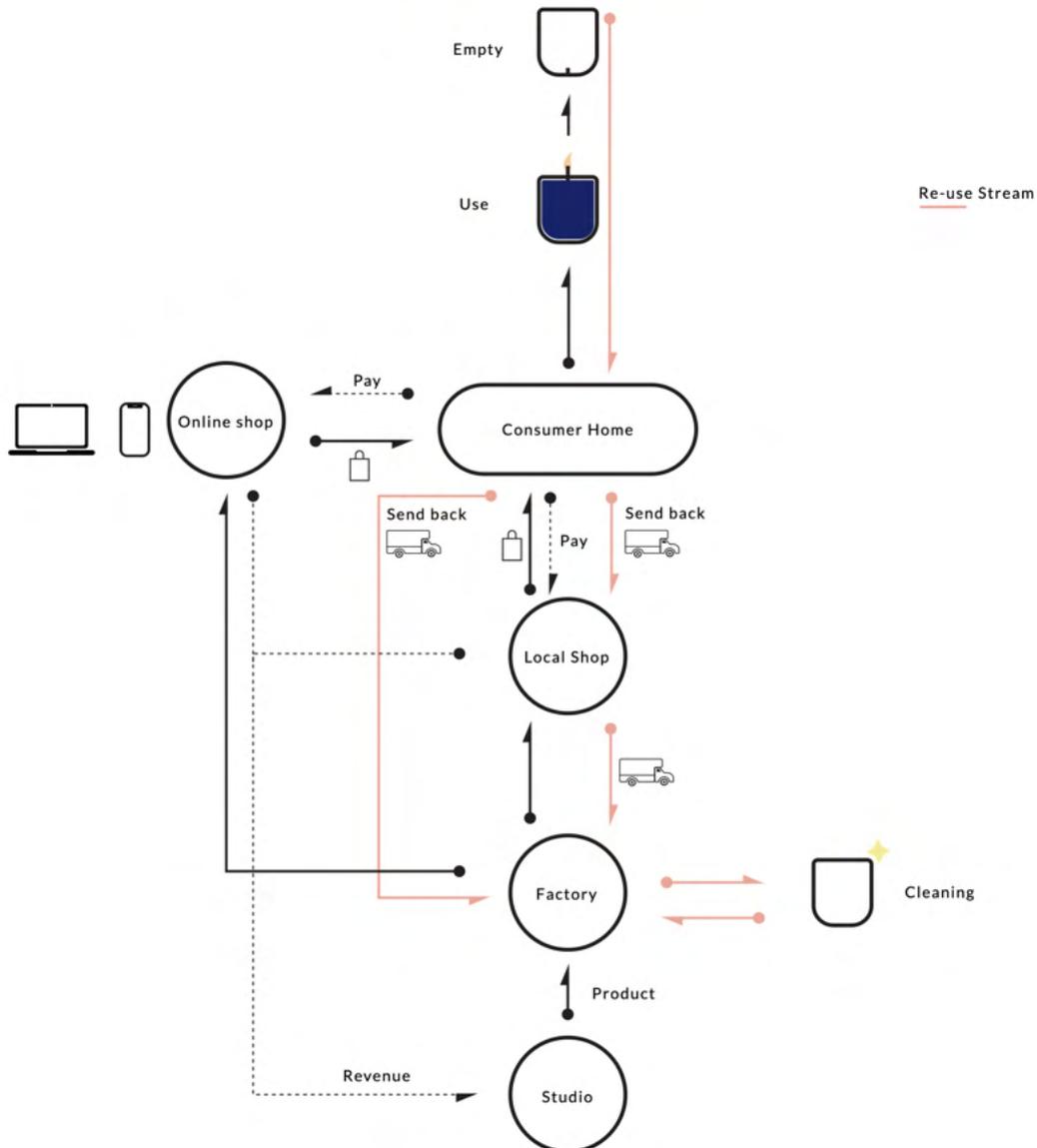
interesting form

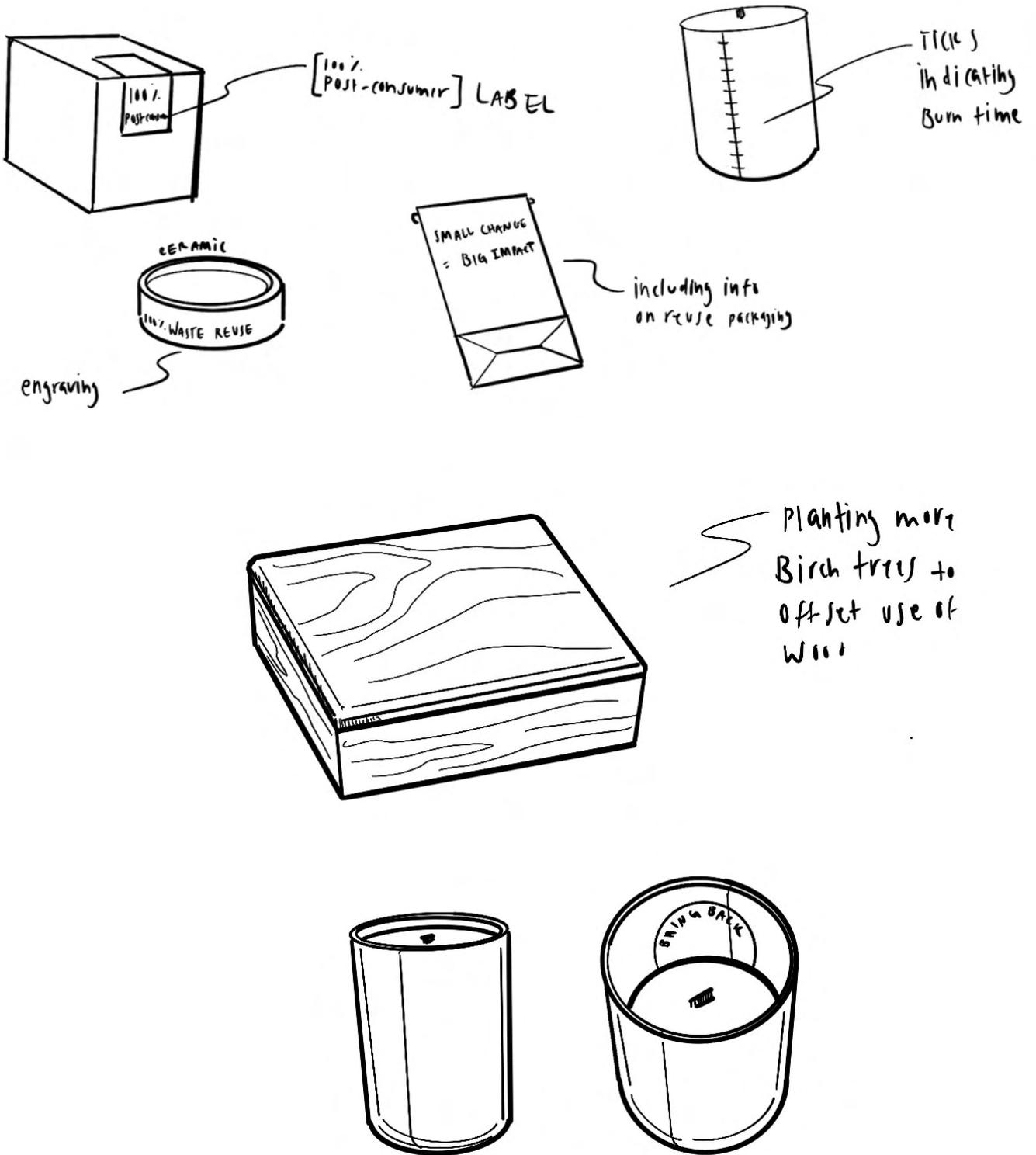
1st candle

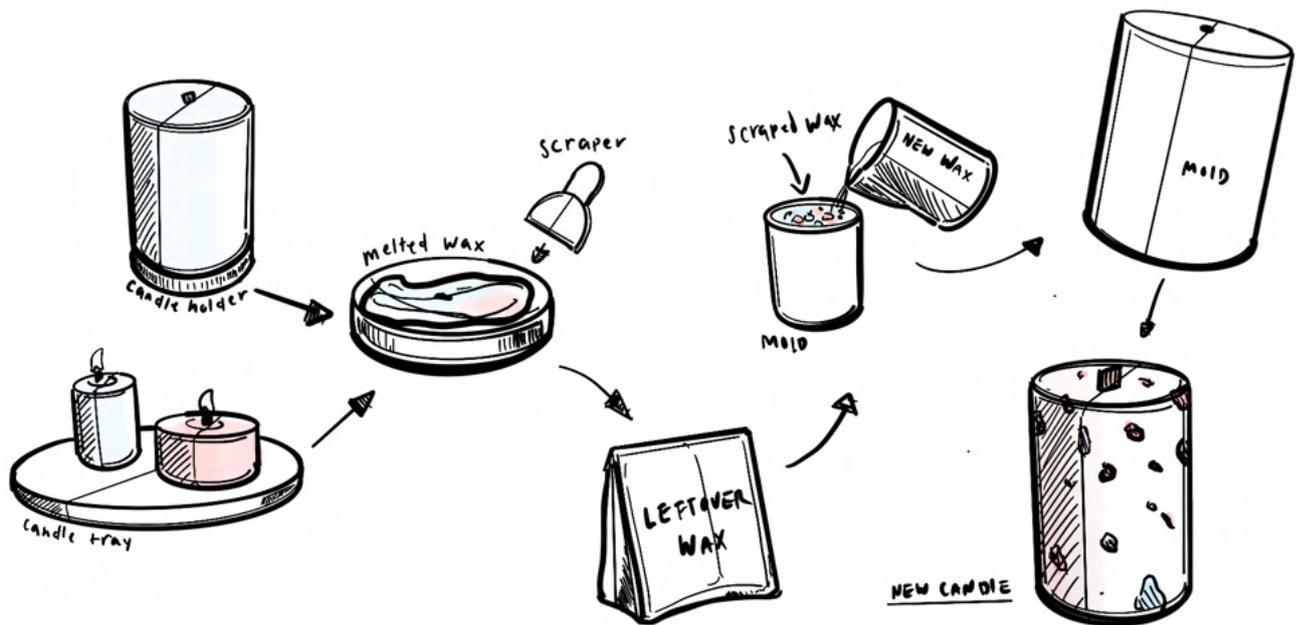




Re-using Candle Vessels







Week 2-3

Research Phase

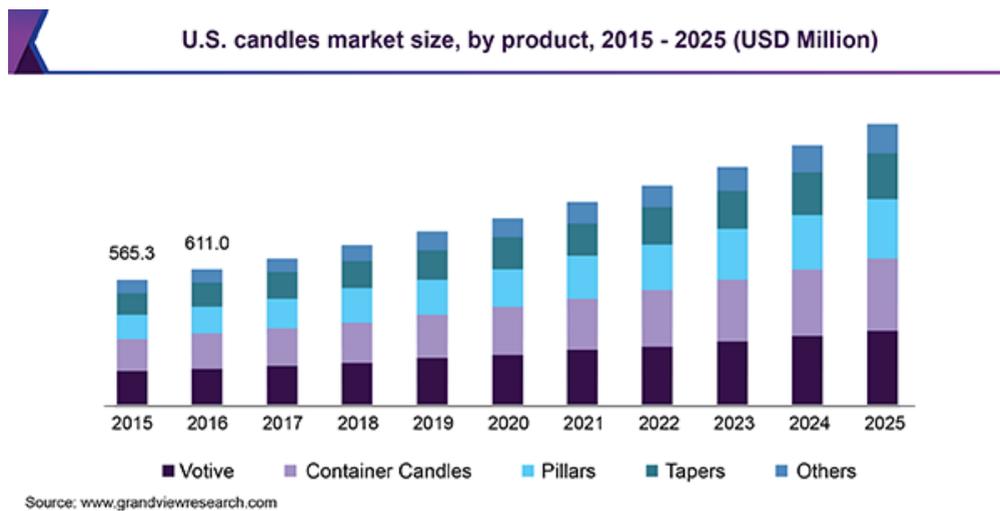
Lets Talk About Candles

The Candle Industry Numbers

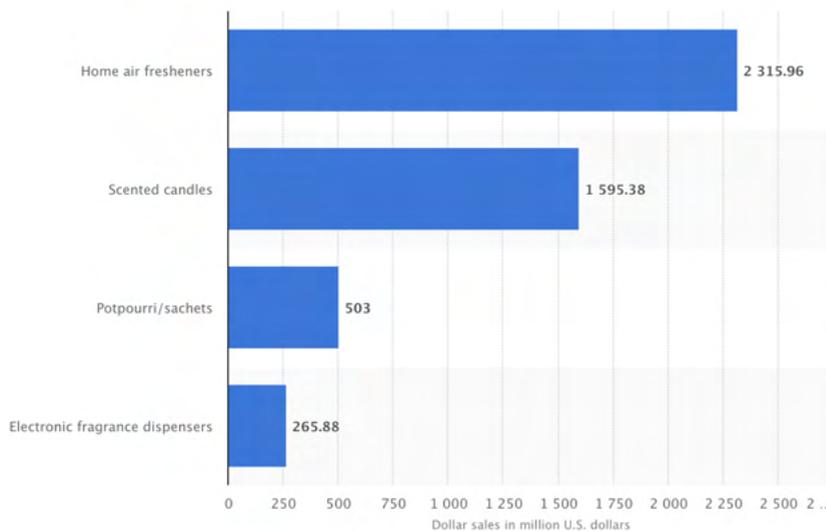
U.S. retail sales of candle products are estimated at approximately **\$3.14 billion** annually

global candle market accounted for USD 8.38 billion in 2018 and is expected to reach around USD 13.72 billion by 2026

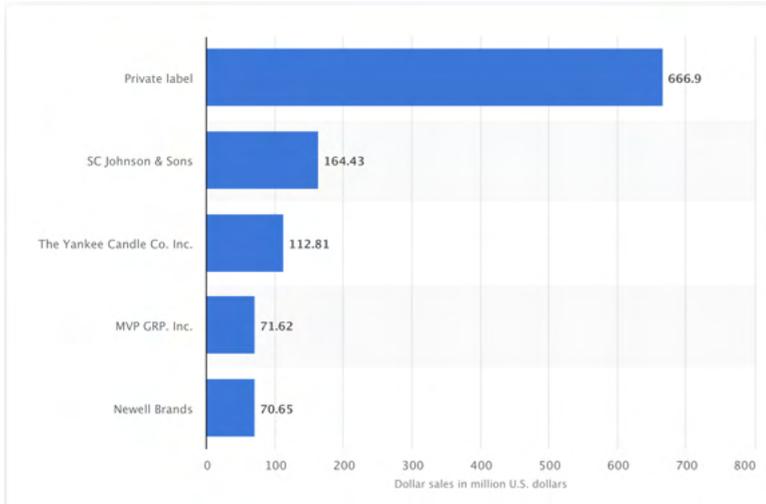
There are more than **400** commercial, religious and institutional manufacturers of candles in the United States, in addition to scores of **small craft producers** for local, non-commercial use.



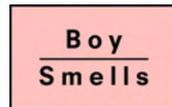
Home Fragrances Industries



Leading Candle Brands



Best Selling Candle Brands - Scents/Design/Gifting Potential



Audience/Demographics

Candles the second most widely purchased home product category, after stationery and greeting cards.

Female dominated category, with strong male participation.

Manufacturer surveys show that **70% of all candles are purchased by women.**

Candle purchase is higher among the more youthful consumers, **aged 44 and younger.** Purchase incidence declines with age with the lowest overall purchase incidence among those 65 years and above.

Candle Types

Tapers, votives, pillars and tealights to container and jar candles, floating candles, liturgical candles, outdoor candles, novelty candles, utility candles and birthday candles.

Candle industry research indicates that the most important factors affecting candle sales are **scent, color, cost and shape.**

2,000 varieties of candles and **10,000** scents available

Votives, container candles and pillars are currently the most popular types of candles with American consumers.



Johannes

Sustainable Candles???



Non-toxic soy wax candles.
Reusable ceramic plant pots.



Vegan candles that come in
reusable ceramic plant pots.

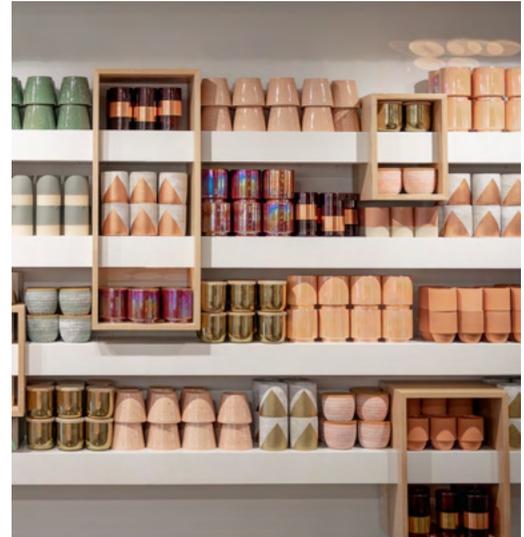


Reusable wine glass

Retail Store vs Online

Candle Retail Outlets

- Speciality or gift shops
- Department and home décor stores;
- mass merchandisers (discount stores, drug store chains, grocery stores, etc.)

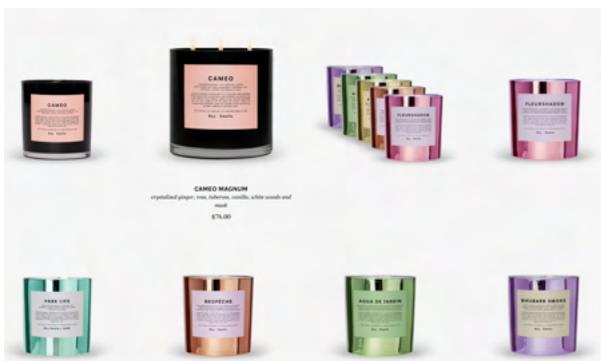
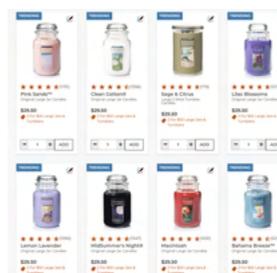


Candles are used in 7 out of 10 U.S. households.

Online sales are expected to witness the fastest growth over the forecast period as a result of the increasing number of millennials using smartphones and tablets.



Global candles market share, by distribution channel, 2018 (%)



Psychology behind Candles



The smell of the scented candle stimulates the part of your brain which is connected to **memory and mood**.

It's a candle's flame that helps to soothe our soul – reducing stress and increasing self-awareness. The soft illumination helps us to calm down and even achieve a meditative state.

Some of the perks of feeling more relaxed include **more energy, better sleep, enhanced immunity, less pain and a more pleasant personality**.

We all have our trigger scents; scents that make us feel good and scents that remind us of unpleasant or unhappy times. By choosing a scent we find relaxing, or a scent known for its calming properties, you can enhance your candlelight experience.

Scents and Moods

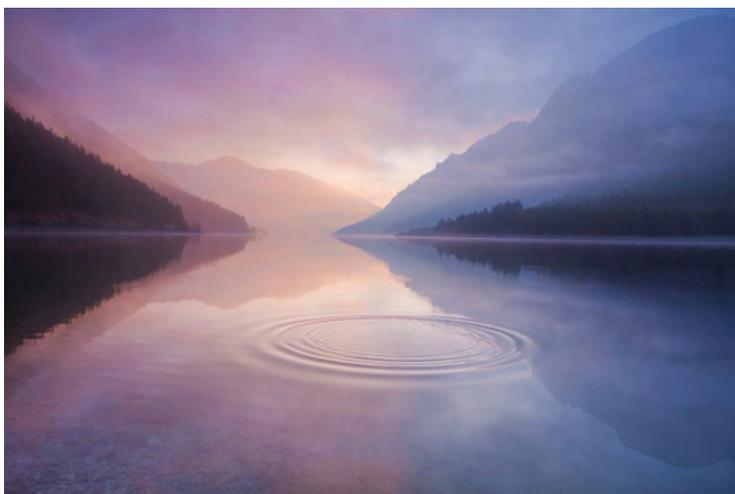
- **Lavender** - relaxes instantly both mind and body.
- **Clary sage** - lifts mood.
- **Cinnamon** - makes you feel refreshed.
- **Orange** - reduces stress.
- **Lemon** - improves mood.
- **Apple** - controls anxiety.
- **Peppermint** - wakes up your mind and enhances focus.
- **Frankincense** - helps battle anxiety and gives great stress relief.
- **Sandalwood** - relaxes and calms body and mind.
- **Vanilla** - increases happiness levels, uplifts your mood.



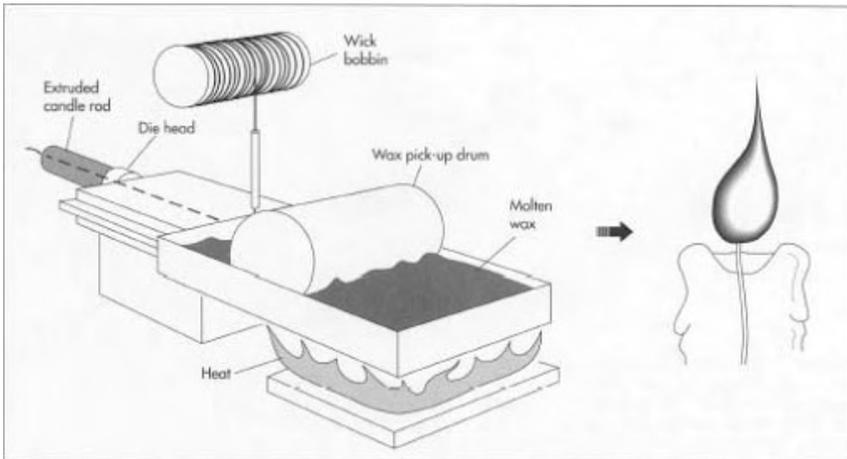
How Scented Candles Help People Socialize

Research consistently shows that the dim-ish warm light that results when you light candles and fireplaces **increases the likelihood that people'll be in a relaxed positive mood and get along well with each other.**

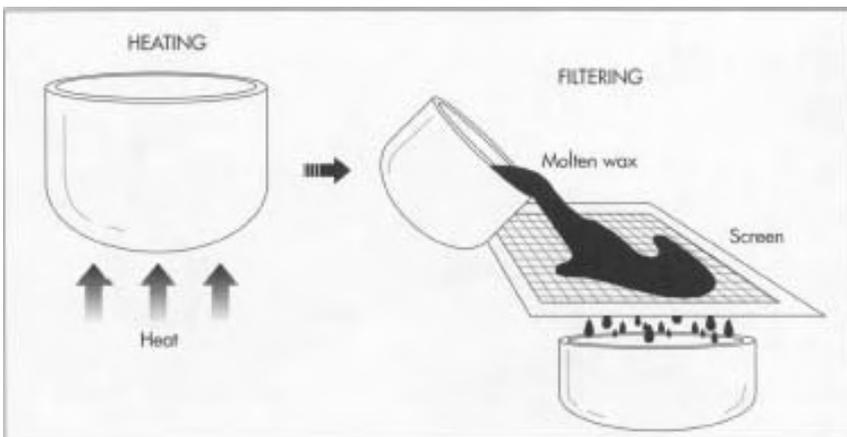
Candles and Anxiety: Scented candles have been used for centuries in all manner of rituals as they promote healing, enhance meditation and cleanse energies. The gentle, mesmerising quality of their light makes them a perfect aid for any relaxation routine.



Candle Mass Production



One method of forming candles is to extrude the wax through a die of the desired shape. A wick bobbin feeds wick into the center of the mold so that the wax forms around the wick. Unlike molding, extrusion forms one continuous length of candle that must be cut into the proper sizes.



After the wax base is heated into a clear, near-liquid state, it is filtered to remove any impurities that might interfere with the finished candle's burning process. Any dyes or perfumes are added at this time.

User Experience

Users of Candles will typically use up the products and then dispose them.

Provides scent

Using as light

Need Lighter or Matches

Keeping Packaging

Provides healing ambiance

Beauty creators will use products to create online content.

Provides warmth



Sarah

Candle Types

Contained



Used for ambience and scent

Pillar



Decorative or mood lighting



Tealight



Teapot warmer



Votive



Religious uses

Tapered



Lighting and dining mood



Existing Sustainable Brands

Sib—lings

Most candles are mass-produced using paraffin—a byproduct of petroleum; most tumblers never get reused or recycled—contributing to landfill; and an empty candle glass you toss out today can take up to a million years to break down. They believe there's a better, more sustainable way of doing candles.



DIY Kit

Wax is sold without reusable vessel

60% compostable

You can pour the wax anywhere

Coconut Wax

Making things that last



Premium DIY candles made easy

Melt
Microwave the eco-friendly, scented wax, in its plant-based packaging to melt it.

Pour
Pour the melted wax into your favorite vessel. A jelly jar, ceramic vase, or quirky teacup could all work well.

Enjoy
Let your new candle solidify. Trim the wick, light and enjoy.

Obakki

Online Directly Wholesale Online

Traditional artistry

Handcrafted

Family run

Small Batches

Sustainable wax form Japanese Haze trees

Highly Transparent

clean-burning fragrance oil blends. Vegan and cruelty-free.

packaged in a reusable wooden box. Cast Iron stands



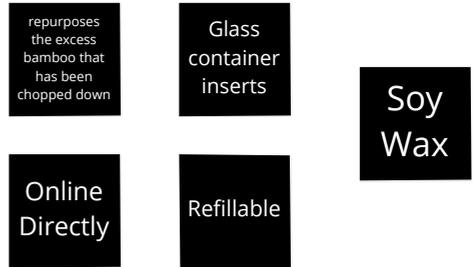
Everything carried by Obakki is handcrafted and produced in partnership with their network of world-class artisans. With a strong belief in slow design, the team at Obakki has connected with artisan groups from around the globe to preserve and honor traditional artistry and create limited edition, small-batch homewares. The candles are handmade by a family run business in Ishikawa, Japan, who have been creating traditional Japanese candles "wa-rousoku" in the same way since 1892. These sustainable, vegan sumac candles are made from wax that is harvested from the fruit of the Japanese Haze tree, and their unique hollow wicks allow them to produce a bright, tall flame.

Sarah

Existing Sustainable Brands

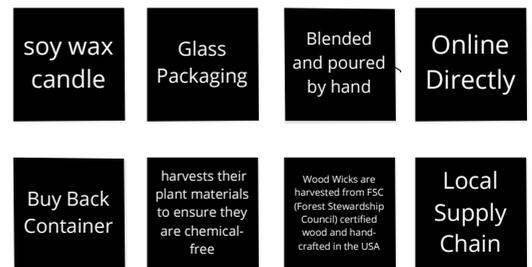
Da Mior

Da Mior is dedicated to offering premium bamboo products that pay homage to the beautiful bamboo forests of Damyang in South Korea. The refillable bamboo cases are handcrafted in South Korea out of only fully matured bamboo. The TownBamboo team utilizes repurposed bamboo and limits the number of cases they produce per day in order to practice sustainability and preserve the bamboo forests of Damyang. The candle itself is made from soy wax and has a 32-35 hour burn time.



Three Inches High

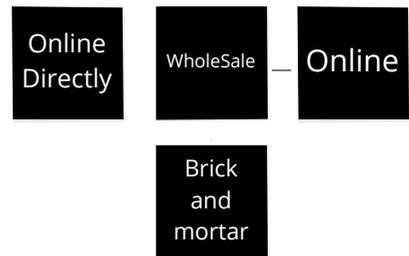
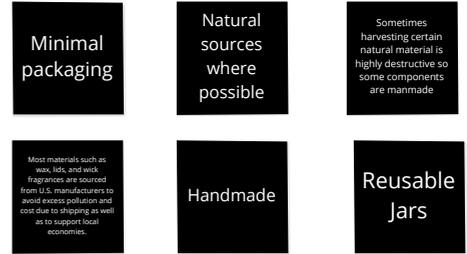
The soy wax candles from Three Inches High have a dual-layer wooden wick for a long, clean burn. Enjoy luxurious, long-lasting scents while the crackling of these unique wooden wicks helps to create an ambiance of tranquility. Three Inches High grows and harvests their plant materials in their small urban container gardens and their team works diligently to ensure every part of the process is sustainably sourced, naturally formulated, and safe for you and your home.



Existing Sustainable Brands

Roote

The company's owner who create these luxurious products seek to bring clean living alternatives to mainstream products full of toxins. The delightful scents in their products come from all-natural sources where possible, using essential oils and plant absolutes. In some cases, harvesting the natural product is highly destructive to the environment so they will use a manmade substitute, but every ingredient must pass their extremely high standards for quality and safety in order to be used



United By the Blue

United By Blue carries a variety of masculine, outdoors-y candles. Some of them come in mugs, which means you can clean the wax out when you're finished with your candle and reuse it over and over again. All of their candles are hand-poured in Philadelphia, PA out of GMO-free soy wax and a cotton wick. With each purchased product, United by Blue removes one pound of trash from oceans and waterways, and they also proudly hold a [B Corp certification](#).



Sustainable Materials

Beeswax

Beeswax is perhaps the best option for candles because it's actually regenerative (and is also the only type of wax that is naturally-occurring).



Soy Wax

Soy wax candles are good because they are really easy to find and are also vegan. Soy definitely has its downfalls—soybeans are often grown using pesticides and there are chemicals in turning it to wax. But, it's still a much better option than paraffin. Organic and/or GMO-free soy wax are better. vegetable wax derived from the oil of soybeans



PF Candle CO



Sustainable Materials

Coconut Wax

While a bit harder to find, organic coconut wax is your best bet for vegan wax. It's a bit more sustainable and cleaner than soy.



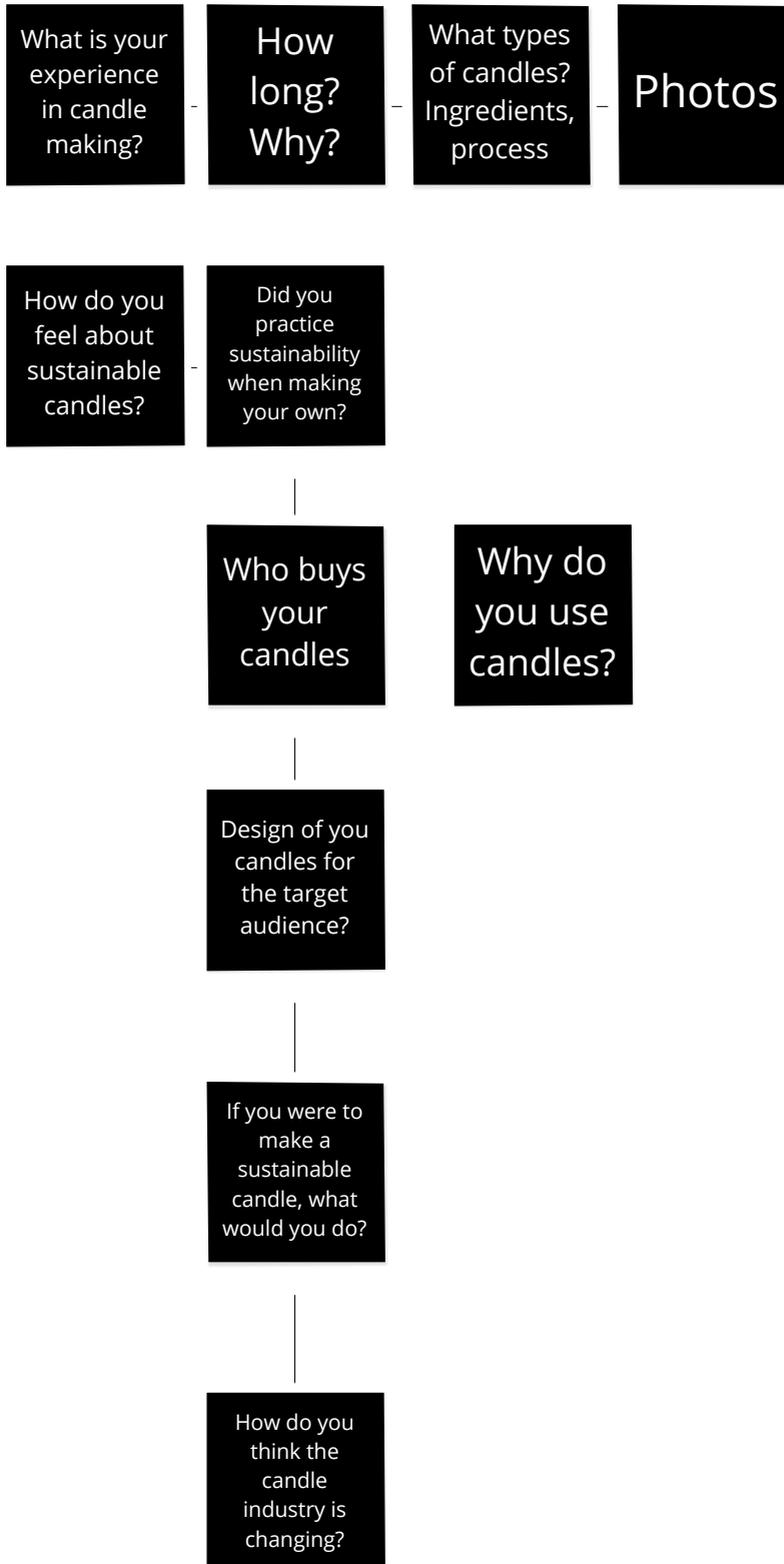
Tallow

Sustainably-sourced tallow is another great regenerative option because it comes from pasture-raised cows. But, it is also rare.



Tallow Candle in Soft White / Ontwerp Duo

Interview Questions



User Interview 1: North

About North:

PD designer, Engineer, Consumer goods

Why do you personally use or like candles?

The atmosphere, adds a type of light experience real living light source, ambiance.

For how long did you make candles?

Grew up with a kindergarten teacher who made them. Something to do during the quarantine. Longtime hobby. Always made them.

Why did you start making candles?

Hobby. Gift for friends. Lockdown activity.

What types of candles did you make?

Made dip candles. Melt wax in a container, Silicone molds. Paraffin. Tried soy-based waxed. Paraffin has the best burn time. Essential oils bind best to paraffin. Lavender scented candles. Bergamot. Helps to calm anxiety.

How is your process, and what were your ingredients?

Recycled jars, recycle old candles and wax.

What are your thoughts on sustainability?

Crosses her mind. The process is not too wasteful. Avoiding buying candles with glass jars. Reusable container. A tray with a catcher. Buys pillar candles. Melt on stove top.

For who?

Self or gifts for friends and families.

How did you design your candles for that target user?

Lavender or scentless for anyone.

If you didn't make sustainable candles before, how would you make them?

Moving away from any product and giving raw material. Locations of materials. Think of locally making and locally sourcing ingredients. How can we collect post-consumer wax? Large Pillar candles are best for long burn time. Contained candles burn slower.

Where do you think the candle industry is moving towards in the future?

Consumer awareness, Caring about scents for health and pet health. More high-end and eco friendly. Special occasional buy. Nothing toxic. Most popular: Internal wick and surprising factor.

How are these ingredients most likely sourced?

Most ingredients sourced from old candles. Ikea, Rite aid lavender oil. In kit scents, terrible. Essential oils are based domestically or in Europe. Most likely made in bad industrial settings.

Sarah

User Interview 2: Jo

About Jo:

PD designer, 21, Female,

Why do you personally use or like candles?

1. Looks of packaging, aesthetic
2. Scent
3. Ambiance from lighting to calm down
4. Purifying/Rejuvenating quality

If the packaging is ugly she won't buy it

Uses lighter or another long candle.

How was your candle-making experience?

Nerve-wracking experience, uncertain, lack of experience

Would you buy a candle with steps involved?

If it's simple and fun yes if it's messy then no.

What scents?

Citrus or floral, calming scents, nothing strong.

How is your process, and what were your ingredients?

Beeswax candle

What are your thoughts on sustainability?

Sustainability is something necessary that we have to do in this day and age. It's not a radical change but there are things we all can do to make things better and healthier.

Price?

15-25\$

How often?

1 every 2 weeks since she uses them every day.

Pets?

Never considered how that affects them.

Where do you think the candle industry is moving towards in the future?

There have been a lot of more stylized candles, shapes, and colors. Candles that are not meant to be burned. The function is out, the decor is important. Candles are more popular through the pandemic. Started using it after the pandemic. Calming anxiety.

About Mia's Co

Mia's Co. is a newly established brand located in Los Angeles, CA. Since our founding, we've been committed to making both natural, unique, and affordable candles. Our products combine vision with superior product design. Each of our 20 different candles has a one-of-a-kind story behind it, which allows you to select the perfect candle for yourself or someone that you love.

Our candle series includes the city series, nature series, wedding series, and birthday series. We also have additional series that are currently being developed for your selection. These series appeal to the different scents that you may encounter in any of these given situations. For example, you can gift a piece of someone's favorite city to them with our city names candles or select one of Mia's Co. simple nature candles. From our family to yours, our candles are for the favorite people in your life, those you hold nearest and dearest. Regardless of nationality, race, gender, age or any other factors, Mia's Co. makes it possible to gift someone with a memory through the best candles on the market.

We are committed to functional design as well as environmentally-friendly products and crafting. We want to stay away from fragrances that overpower any room and focus on providing an aroma that complements an area instead. Candles should be an accent and not a centerpiece.

We hope to encourage a deeper understanding of candles, their many uses, and the reasons they have remained a constant fixture in home decor.

We do hope that you will enjoy the scents we create. With any luck, we'll be able to capture our favorite memories in a small bottle to share with you, to remind you of things almost forgotten, or inspire you towards creating new memories.

Please join us, share your scented memories, and help us uncover all of the best scents that exist throughout the world.

LA
Based

Creating
scents for
every
memory

Hand-
pouring

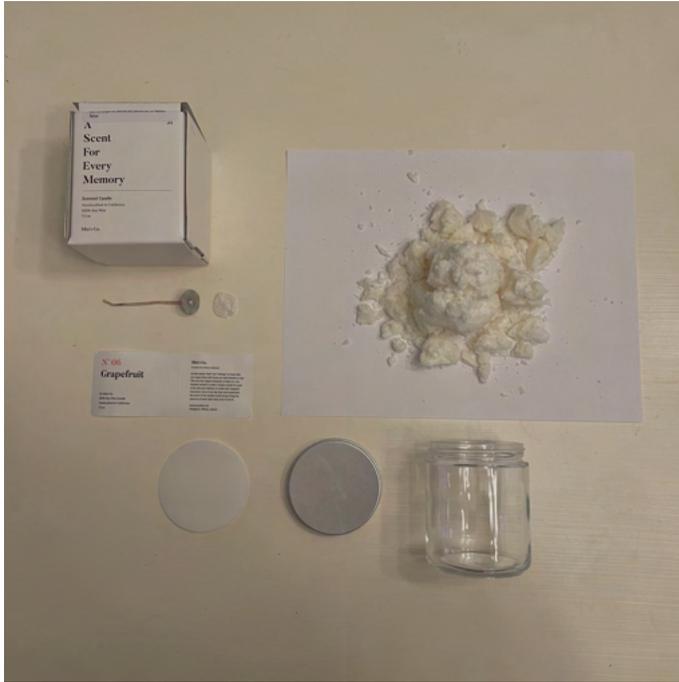
Creating
scents for
every
memory

100%
Soy wax

Meaning:
Scents that will
invoke
memories of
occasions



Candle Pack out : Grapefruit Candle



Packout Process



Lid is easily unscrewed



Soy wax needed to be melted to remove



The wick was taped on and had to be scraped out with a tool



Double-sided tape was scraped off the wick

The cotton rope could not be removed since it was clamped in too tight.



Label is easy to remove

This hand-crafted, soy candle is a refreshing blend of fruit and citrus. The top of the candle is a blend of bright citrus which includes, orange, mandarin, and lemon. The candle then introduces the strong scent of grapefruit with the bitter notes curbed by a squeeze of fresh peach. The final notes present as vanilla and red currant to create a rounded scent that fills the room rather than cut throughout it.

Assembly Order

1. Clamping cotton wick with metal attachment.
2. Taping metal attachment+wick to the bottom of the jar.
3. Pouring wax in to the jar with the wick held up.
4. Waiting for wax to dry.
5. Adding foam under steel lid.
6. Screwing lid on to the jar.
7. Pasting glossy label on jar.
8. Placing completed candle in constructed box.
9. Pasting matte label over the edge of the box where it opens.

Lets Talk About Candle Wax (Pros & Cons)

Paraffin Wax



The majority of candles around the world are made with paraffin because it does a really **good job with scent and is readily available.**

It is a byproduct of **petroleum** refinement that is turned into all kinds of waxes, and so is **not renewable.**

Paraffin **releases toxic chemicals** in your home, and it's part of the ongoing global reliance on fossil fuels which is driving **climate change and not sustainable.**

Paraffin candles release a plume of **carcinogenic materials into the air** whenever they're lit and can leave soot damage behind even with a properly trimmed wick.

Soy Wax



Soy and coconut wax **burns cleaner and is a renewable resource.** It's grown in the US, **bio degradable, and non-toxic,** made with vegetable-based ingredients.

Soy burns at a cooler temperature which results in a **cleaner, longer lasting candle.**

However soy wax is not harvested sustainably with burning rain forests to create space to grow soy.

Beeswax



Beeswax is **renewable**, the unbleached yellow kind requires minimal processing and emits negative ions that bind with pollutants, **effectively removing particles from the air**.

The mildly sweet honey scent of yellow beeswax is perfect for a relaxing evening by candlelight.

Supporting bee agriculture also helps the environment indirectly by **encouraging the growth of bee populations** we need to pollinate flowers both for food crops and in the wild.

Beeswax isn't ideal for all candles since they don't scent well and have a low melting point,

Coconut Wax



Coconut wax candles are made directly from **coconut plant**. The wax colors range from **cream to pure white**. Can be dyed to enhance aesthetics. The candle wax is entirely odorless.

Coconut wax candles comprise of **entirely organic and renewable material**. They, therefore have a very minimal environmental impact, and have sustainable ecological preservation.

Coconut candle waxes are **slow-burning, with a superior scent throw**, they can hold fragrances very well.

These wax candles have **great jar adhesion**. Unlike soy wax and beeswax candles, you don't have to pre-heat your jar, simply place your candle in your jar at any temperature.

How does the Candle Industry Market their Candles?

Understand their Audience

Demographics, Spending Behavior, Interests



Making their brand "Unique"



Home Scent:

"Your favorite escape", "As Unique As Your Memories"

Boy Scents:

"Sensuous, accessible and bright, Boy Scents products elevate your intimate world."

"Embrace masculine and feminine simultaneously in a simple and straightforward way"

Byredo Candles

"To translate memories and emotions into products and experiences."

"Byredo is reinventing the world of luxury through a new approach, where creation is led by emotions."

Time of Year



There are plenty of times around the year for candle sales to skyrocket

Season	Example Scents	Repeat Customers
Spring	Apple blossom, cherry blossom, lavender, honeysuckle, lemongrass, jasmine, lilac, lilies, magnolias	Candle Subscriptions. Keep customers engaged.
Summer	Beach, sea salt, citrus, wine, coconut, peach, sandalwood, grass, citronella, aloe, hay, linens, watermelon	
Fall	Pumpkin spice, apple, cinnamon, spices, sage, eucalyptus, amber, cedar, tobacco, brown sugar	
Winter	Cinnamon, vanilla, peppermint, pine, orchid, chestnut, maple, cookie, nutmeg, juniper, birch	

Soy Wax Process

About:

Soy Wax (derived from soybean oil), has recently become the most popular natural wax, which is due mainly to the fact that it is cheaper because it's a byproduct of the giant soybean industry. Concerns about deforestation by environmental groups like the WWF, the impact of industrialized farming, and the unhealthy amounts of pesticides and fertilizers used to grow soybeans.

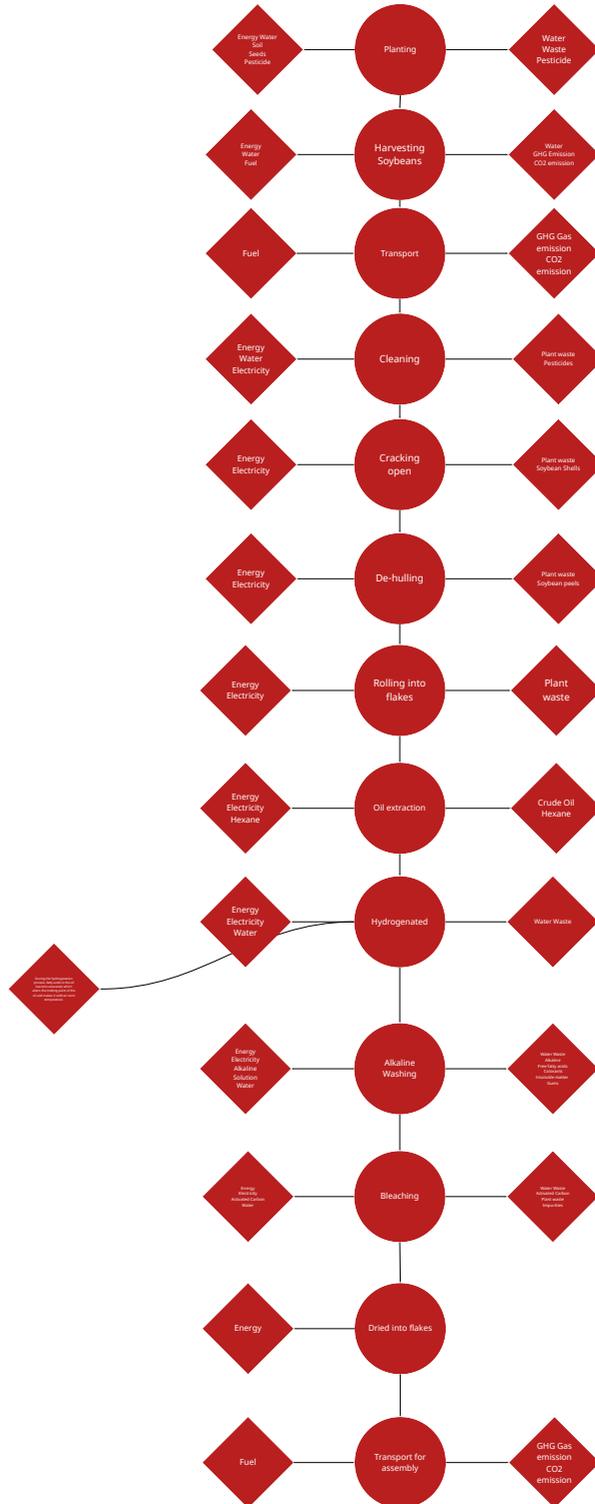
We need somewhere to grow all this soy and Europe isn't facilitating it all yet. The largest expansion of soy production has been in South America and it's already contributed to deforestation and change in many important habitats such as the Amazon and Cerrado. Much of this land is incredibly biologically diverse - it's home to a great array of animals and habitat compositions. Biological diversity is extremely important for a variety of reasons, not just for its own sake, but also for larger global issues such as climate change, resource regulation, soil health and more.

- Research shows that [soy production for consumer markets has been linked to habitat loss in Brazil](#) and could be a threat to biodiversity.

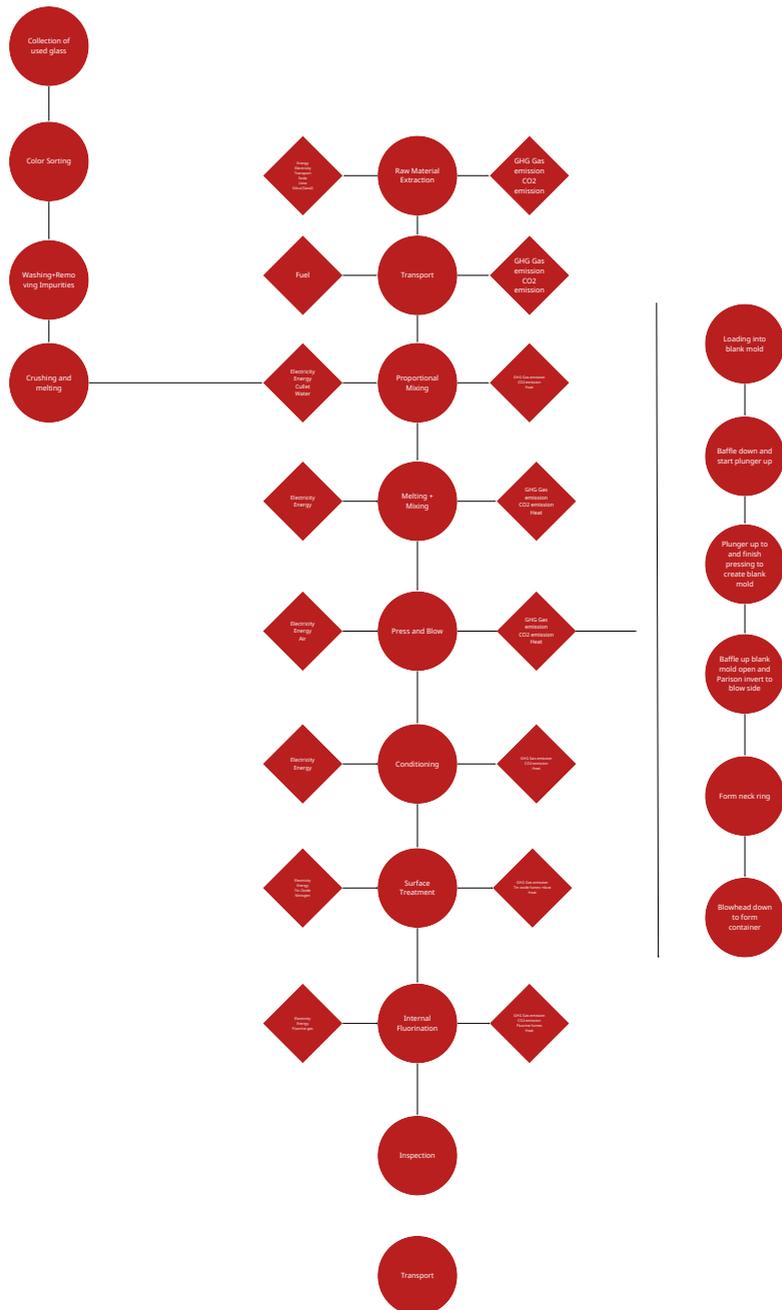
A Brazilian moratorium on growing soy in land cleared from Amazon forest has helped reduce this, but other habitats such as the Cerrado haven't seen the same attention, it's lost around half of its natural vegetation since the 1950's a large part of this due to soy expansion.

Other areas at risk include the Atlantic Forest, the Chiquitano Dry Forest, the Gran Chaco, the Pampas in Argentina, the North American prairies and the Uruguayan Campos.

Let's not forget that when we cut this forest down, we're destroying not only some of the most unique habitats in the world and all the services that they provide, but also the homes of everything that lives in them.

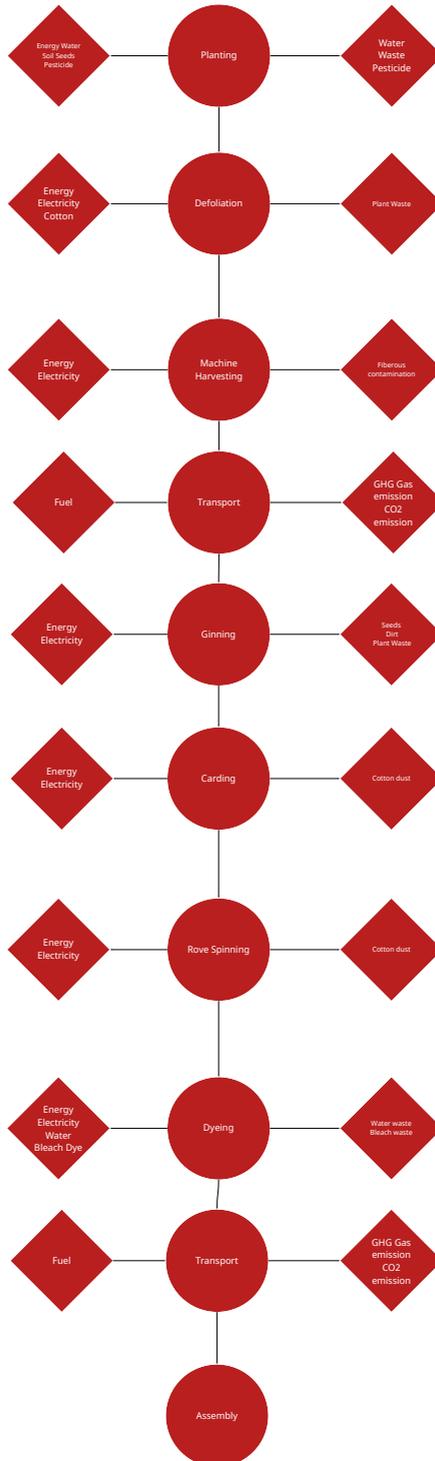
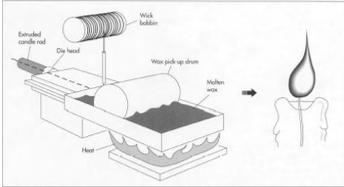


Glass Process

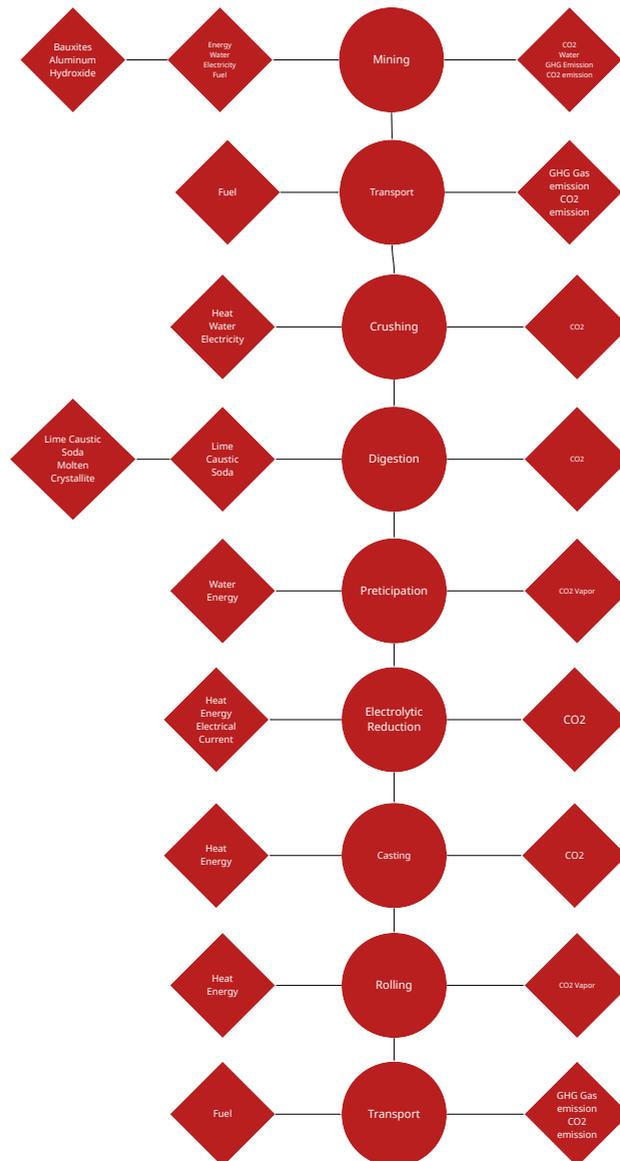
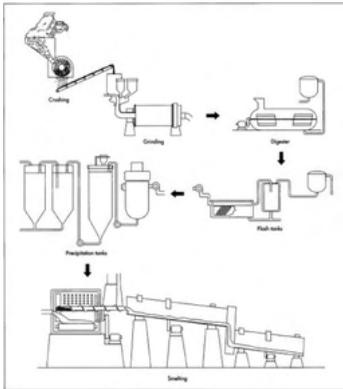


Cotton Wick Process

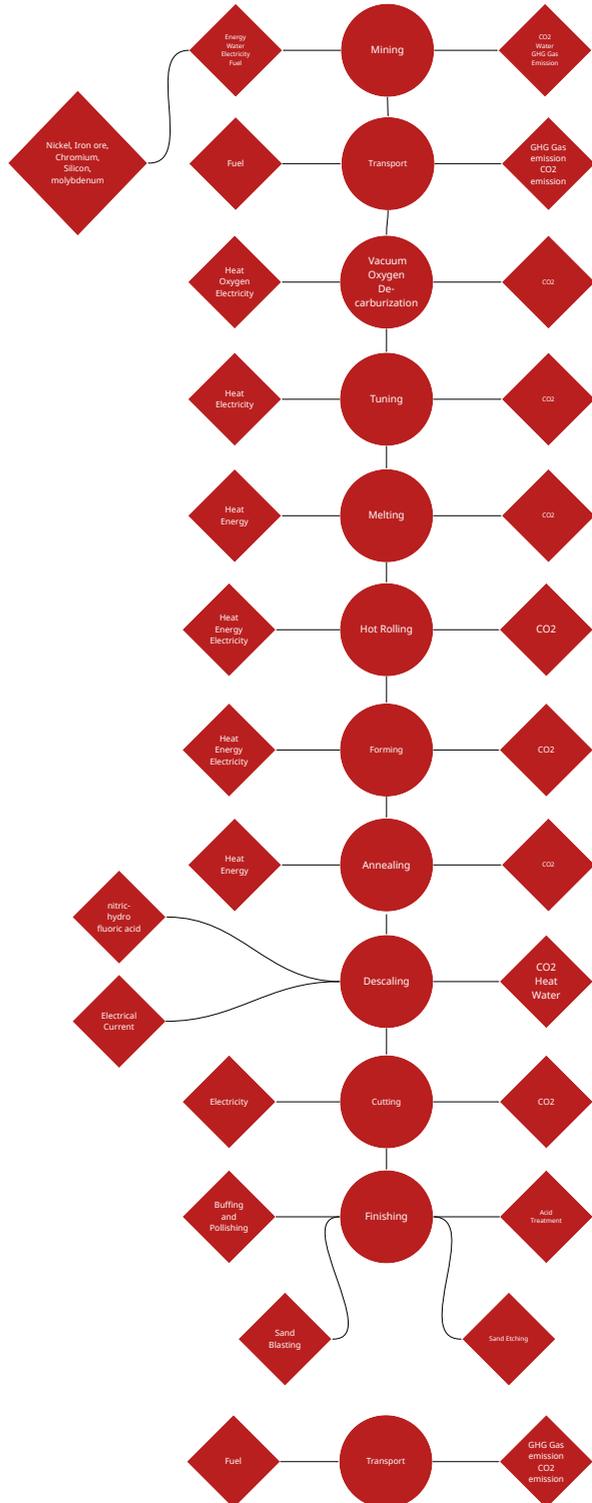
https://www.3m.com/3M/en_US/pressroom/press-releases/2015/01/20150127-3m-wick-process



Aluminum Lid Process



Stainless Steel Wick Holder



Week 4-6

Research Phase

Sarah

Tools for Maintenance



Candle Extinguisher
Black Wick Shears
Stainless Steel Candle Repair Tool

Tools for Visuals



Lids
Trays
Holders
Photophores

Tools for Scent



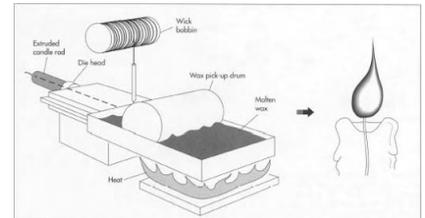
Electric warmer lamps
Electric Lanter warmer
Electric plate warmer

Tools for lighting

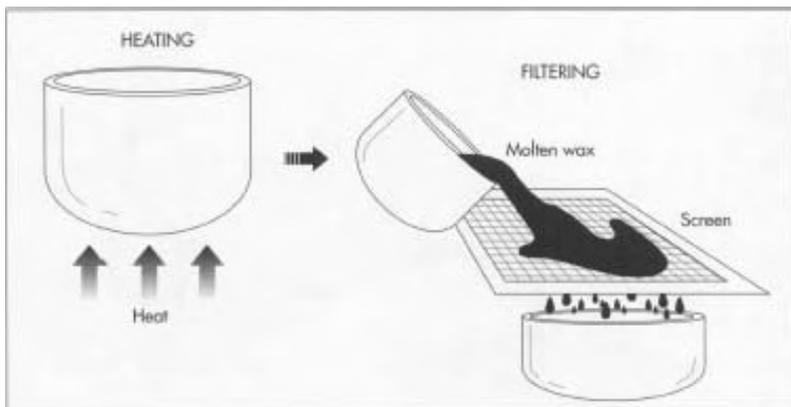


Matches
Sparker
Lighter

Candle Mass Production



One method of forming candles is to extrude the wax through a die of the desired shape. A wick bobbin feeds wick into the center of the mold so that the wax forms around the wick. Unlike molding, extrusion forms one continuous length of candle that must be cut into the proper sizes.



After the wax base is heated into a clear, near-liquid state, it is filtered to remove any impurities that might interfere with the finished candle's burning process. Any dyes or perfumes are added at this time.

The hand-pouring method with metal wick-stands.

Harmful Toxins from Scented Candles

Regular scented candles put off carcinogenic chemicals that are considered just as **dangerous as second-hand smoke**.

Candles made of paraffin wax when burned creates **highly toxic benzene and toluene** (both known carcinogens).



Candle wicks are supposed to be made of cotton or paper, but **heavy metals in wicks still occurs**, especially in products manufactured in China or Taiwan.

A candle with a lead-core wick **releases five times the amount of lead considered hazardous for children** and exceeds EPA pollution standards for outdoor air.

Evaporation from an uncovered candle can **release pollutants into the air** and touching a candle can cause absorption of chemicals through the skin.

Synthetic fragrances contain phthalates. As candles burn, phthalates are released into the air where they may be inhaled or absorbed through the skin, and can aggravate **allergic symptoms and asthma and alter hormone levels**.

Psychology behind Candles



The smell of the scented candle stimulates the part of your brain which is connected to **memory and mood**.

It's a candle's flame that helps to soothe our soul – reducing stress and increasing self-awareness. The soft illumination helps us to calm down and even achieve a meditative state.



Candles transform an atmosphere through scent, changing the way we feel in space. Lighting a candle for meditation, a bath, a date or any other intention is a beloved practice for setting an ambiance anywhere.

We all have our trigger scents; scents that make us feel good and scents that remind us of unpleasant or unhappy times.

By choosing a scent we find relaxing, or a scent known for its calming properties, you can enhance your candlelight experience.



Floral and herbal aromas, like geranium, lavender, and peppermint, have been proven to be useful for the treatment of various psychological and physiological disorders through the burning of aromatherapeutic candles.



Some of the perks of feeling more relaxed include **more energy, better sleep, enhanced immunity, less pain and a more pleasant personality**.

Burning candles can become a **personal ritual to commit to reflection and relaxation**. Psychologists say candles have a positive effect on mental health,

How Scented Candles Help People Socialize

Research consistently shows that the dim-ish warm light that results when you light candles and fireplaces **increases the likelihood that people'll be in a relaxed positive mood and get along well with each other.**

Candles and Anxiety: Scented candles have been used for centuries in all manner of rituals as they promote healing, enhance meditation and cleanse energies. The gentle, mesmerising quality of their light makes them a perfect aid for any relaxation routine.



Scents and Moods

- **Lavender** - relaxes mind and body.
- **Clary sage** - lifts mood.
- **Cinnamon** - makes you feel refreshed.
- **Orange** - reduces stress.
- **Lemon** - improves mood.
- **Apple** - controls anxiety.
- **Peppermint** - wakes up your mind and enhances focus.
- **Frankincense** - battle anxiety and gives great stress relief.
- **Sandalwood** - relaxes and calms body and mind.
- **Vanilla** - increases happiness levels, uplifts your mood.

Impacts of the Pandemic

Covid 19 has caused a behavioral pandemic.



As we are all stuck at home, the pandemic is causing an outbreak of mental health issues.

Anxiety and Depression are rising because of:

- Fears and Uncertainty towards the future
- Financial instability
- Social disconnection
- Potential to exposure
- Loss of loved ones
- Disruptions of plans

Changes in daily routines:

- Staying home most of the day
- Isolation
- Sleep disturbance
- Possibly stuck in crowded homes
- Increased or decreased appetite
- Alcohol addiction

The pandemic has pushed us further into this endless quest for feel-good, escapist experiences.

An increased reliance on candles during the pandemic



[Source](#)

Changes in the market



While fragrance sales dipped 17% **in the first nine months of 2020, home scent sales shot up by 13%.**

Sales of bargain home scent gift pairings, like a candle and lotion, climbed over 20%.

Times deep-dive on the incense industry highlighted **Baboshop, a Los Angeles-based lifestyle brand, that saw a 143% increase in sales between April and September.** Their third most popular item? A \$45 incense kit. Beauty and wellness brand **Uma didn't typically sell much incense but saw sales for home scent products spike 1300% between June and December.**

The ritual of diffusing your apartment or lighting a candle has never been more appealing now that we spend our days indoors.

Candle sales are surging during the Covid-19 pandemic, with international online retailer Net-a-porter reporting a **130% year-on-year increase in mid-March**

Consumers are relying on scented products to reminisce from nostalgia and memories linked to happier times.

Candles are able to celebrate comfort by providing people a soft ambiance and using the power of scent to uplift their moods.



Visual Trends

A movement towards candle that achieve wellness through visual comfort and DIY



- 1 Soy candle 35,350 (monthly searches)
- 2 Body-shaped candle 19,310
- 3 Jackpot candle 7,920
- 4 Botanical candle 3,540
- 5 Star-shaped candle 2,790
- 6 Twist/spiral candle 2,060
- 7 Shell candle 1,280
- 8 Hand-shaped candle 1,200
- 9 Quartz candle 890
- 10 Candle pottery 860

Curved forms, inspiration from nature, Adding a twist to traditional candle forms.



Sarah

Scent Trends

Driven by the Need for Comfort in a Pandemic



Scents to unwind

Lavender, Citrus, Roemary, Pine+Vanilla, Honeysuckle, Jasmine, Eucalyptus, Peppermint, Bergamot

Scents to escape

Palm leaves, Water lilies, Jungle moss, Almond milk, Dark cacao, Patchouli

Scents to sleep

Lavender, Chamomile, Rose, Jasmine, YlangYlang

Scents with memories

Localized scents for major cities such as Denver (fresh hemp with earthy notes of patchouli and cedar) and LA (orange, lemon, jasmine, and rose), orange, nutmeg, leather, cinnamon, clove, sandalwood, vanilla, balsam, amber, cedar

Aesthetics as Function: Mood setting

Visual Comfort, Decor, Ambiance in bedroom, bath, dining, Reading light, Purification, Re-use as planter



Opportunities

Materials

Optimal Sustainable and efficient Materials

Safe and healthy

Shape and design to enhance efficiency



Branding

Both Female and Male audiences

Educational experience for younger generations



Mindful moments



Sustainable candles for sleep and wellness?

Consumers are adopting bitesize, holistic wellness rituals throughout the day as an integral part of their personal wellbeing.

How we can action this: design simple and natural products that encourage small moments of mindfulness throughout the day. Combine products into sets to offer up ready-made mindful moments.

Providing comfort for those in the pandemic who are losing sleep.

User experience

Cooperative/educational process

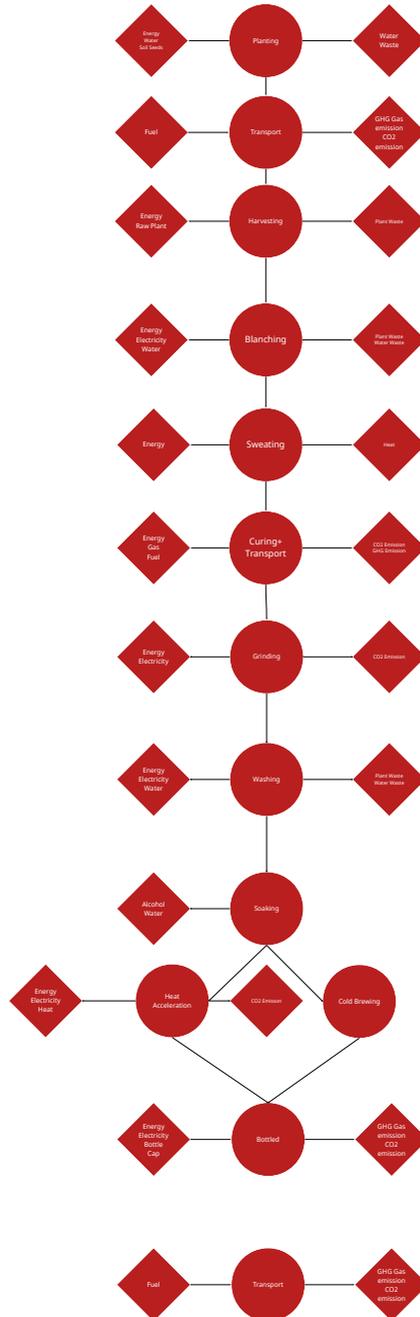
Fun and simple recycling/reusing process

Collection of melted wax

Longer lasting



Vanilla Extract Process

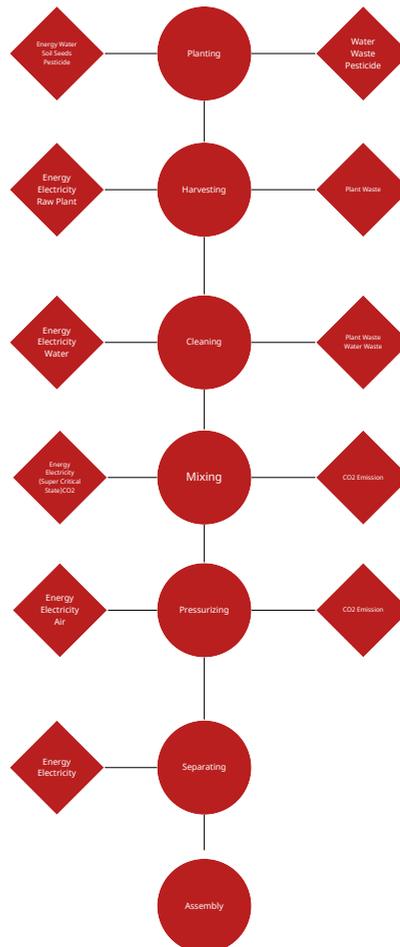
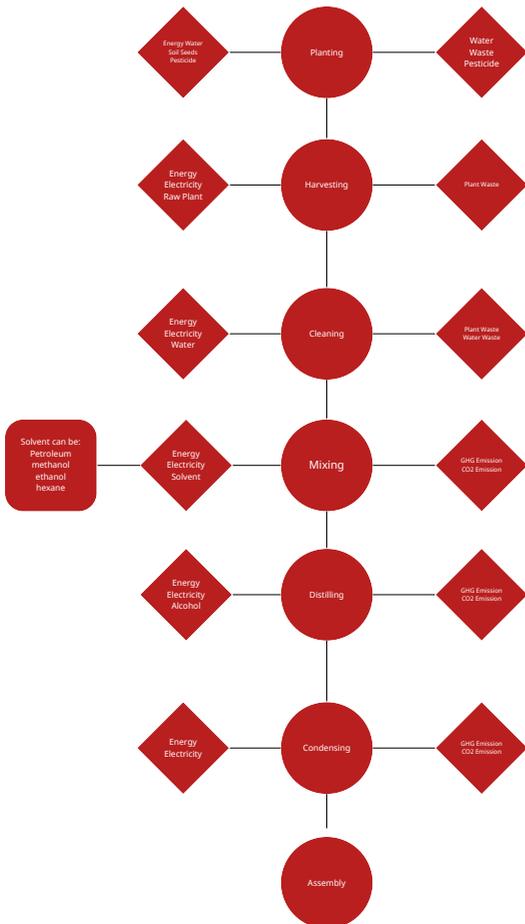


Essential Oil Process Studies

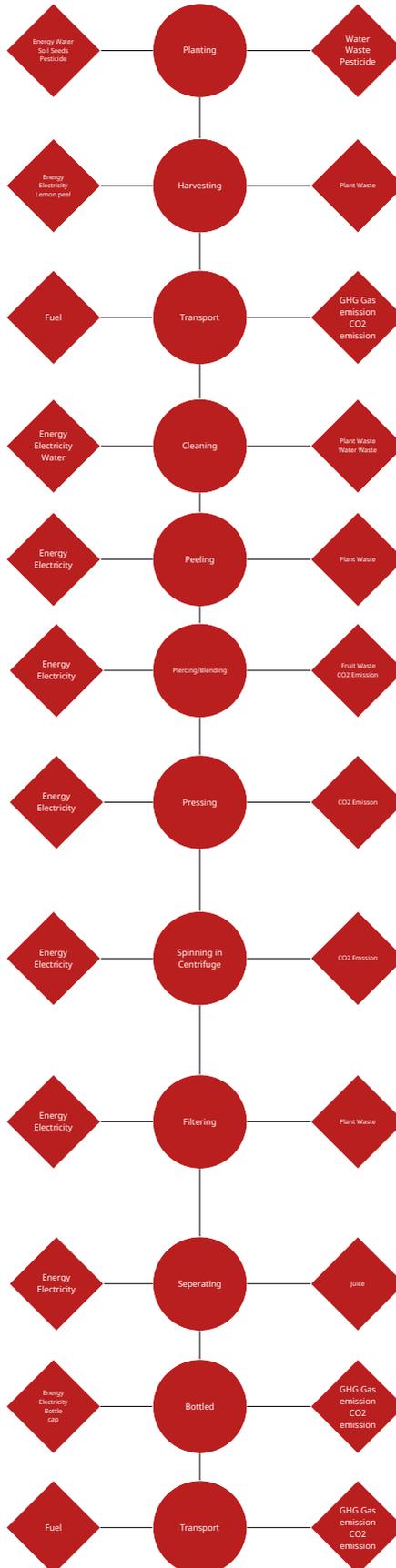


Solvent Process

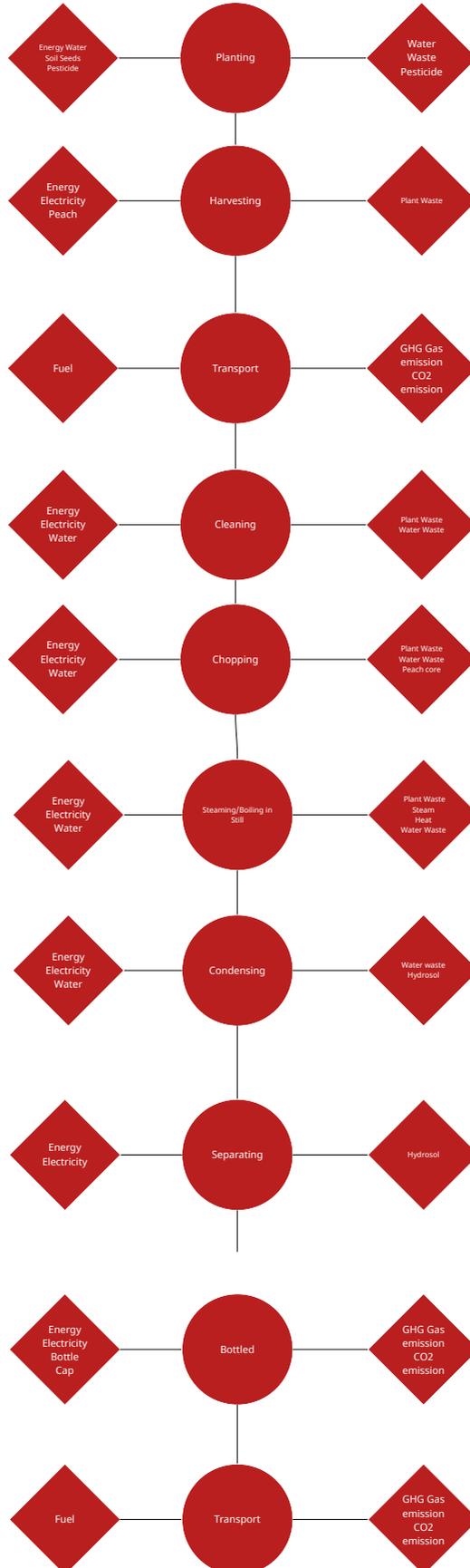
CO2 Process



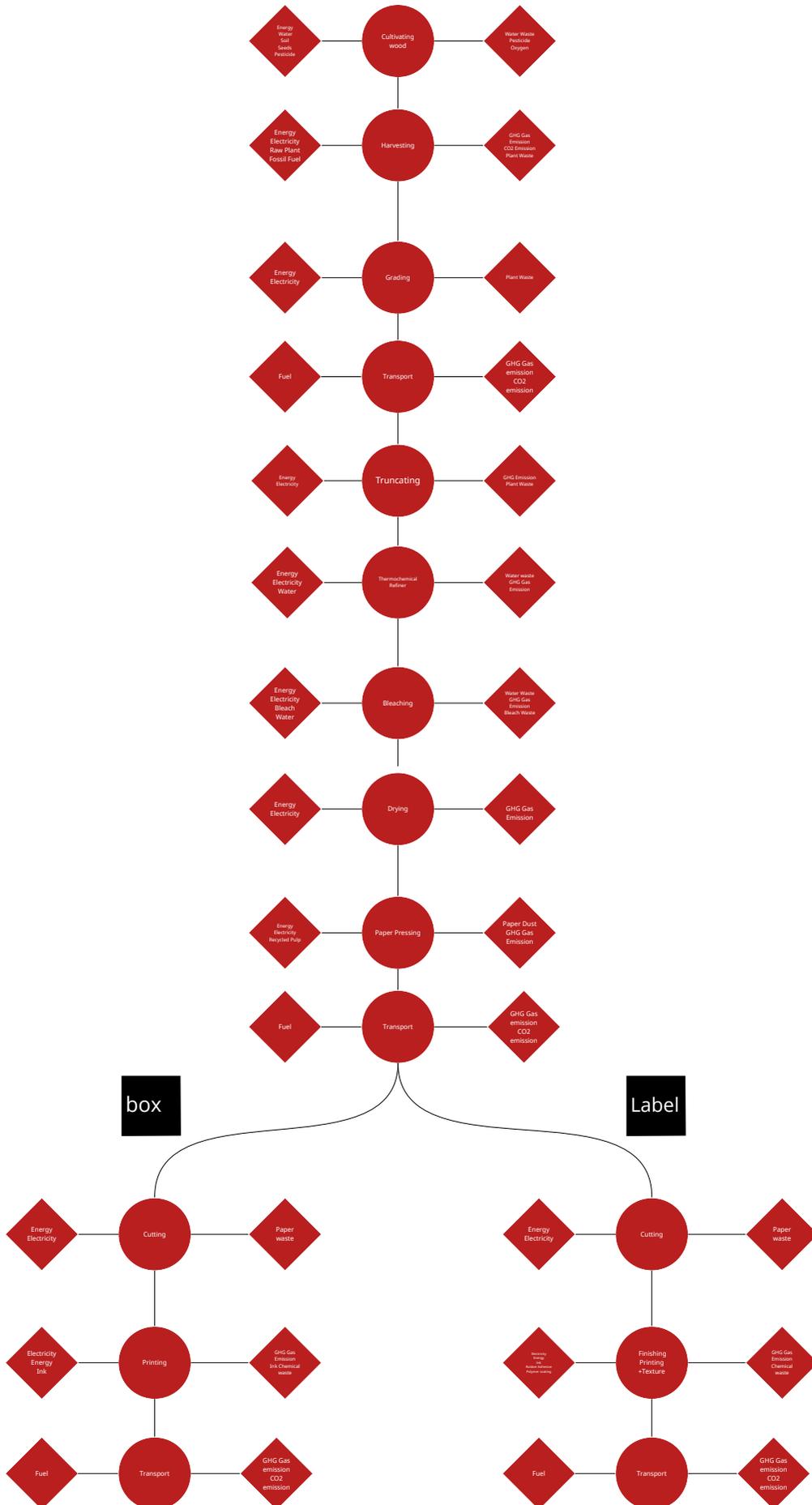
Essential Oil Coldpress Process - For Citrus



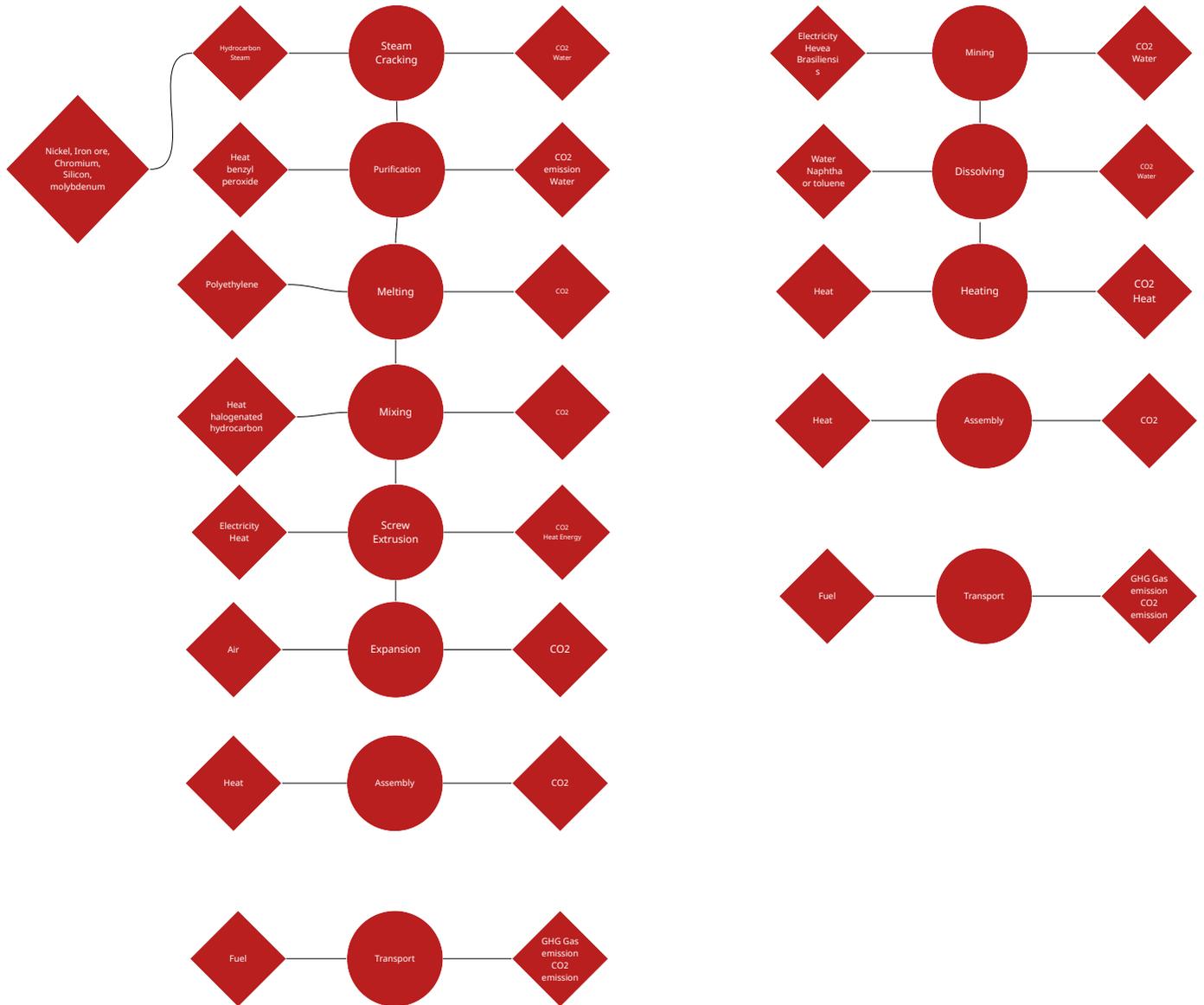
Essential Oil Distillation Process - For other Fruits



Paper Process



Double Stick Tape Process



Transportation Impacts

Glass Jar

Poyang Lake to Fujian 208.1 mi

Fujian to Qingdao 884 mi

China to LA 7231.5 mi

Aluminum lid

Shanxi to Zhejiang 949 mi

Zhejiang to Qingdao 608.7 mi

China to LA 7231.5 mi

Stainless Steel piece

China to La 7231.5 mi

Cotton wick

Xinjiang to Lianing 2226 mi

China to La 7231.5 mi

Soy Wax

South America to La 5053 mi

Lemon e.o.

Guandong to Guangzhou 1.2 mi

China to La 7231.5 mi

Grapefruit e.o.

Guandong to Guangzhou 1.2 mi

China to La 7231.5 mi

Mandarin e.o.

Guandong to Guangzhou 1.2 mi

China to La 7231.5 mi

Red Currant e.o.

Russia to China 2855 km

China to La 7231.5 mi

Peach e.o.

Xinjiang to Guangzhou 1.2 mi

China to La 7231.5 mi

Vanilla Extract e.o.

Madagascar to China 5307.7 mi

China to La 7231.5 mi

Paper

Canada to La 1,434mi

Tape

China to La 7231.5 mi

User Interview 3: Julie

Key Insights

About Julie:

Fashion designer, 22, Female,

Why do you personally use or like candles?

I like to use my candle for moments when my room needs to refresh. It's mostly for scent. It is able to refresh my room and mind. Or I use it to transition into my sleep/bath mode.

I care about aesthetics but I would never buy a candle just for decor. I only buy things for function.

How was your candle-making experience?

Fun, I would do it again.

Would you buy a candle with steps involved?

Sure!

What scents?

It needs to be light, I'm sensitive to scents.

What are your thoughts on sustainability?

It's something that I realize more and more as important as the years go by.

Price?

30\$

How often?

Rare and not for long periods of time. I still have mine from a year ago.

Pets?

Never considered how that affects them.

Why candles and not scent diffusers?

Candle gives me visual feedback and physical warmth when I place my hand over it. I like the tactility and lighting them.

Why do you not use candles more often?

I am concerned for my health. I need to take care of my health so I'm doubtful about how candles affect my lungs. Also, I am sensitive to scents.

Visual and Physical warmth that is not available in incense or diffusers

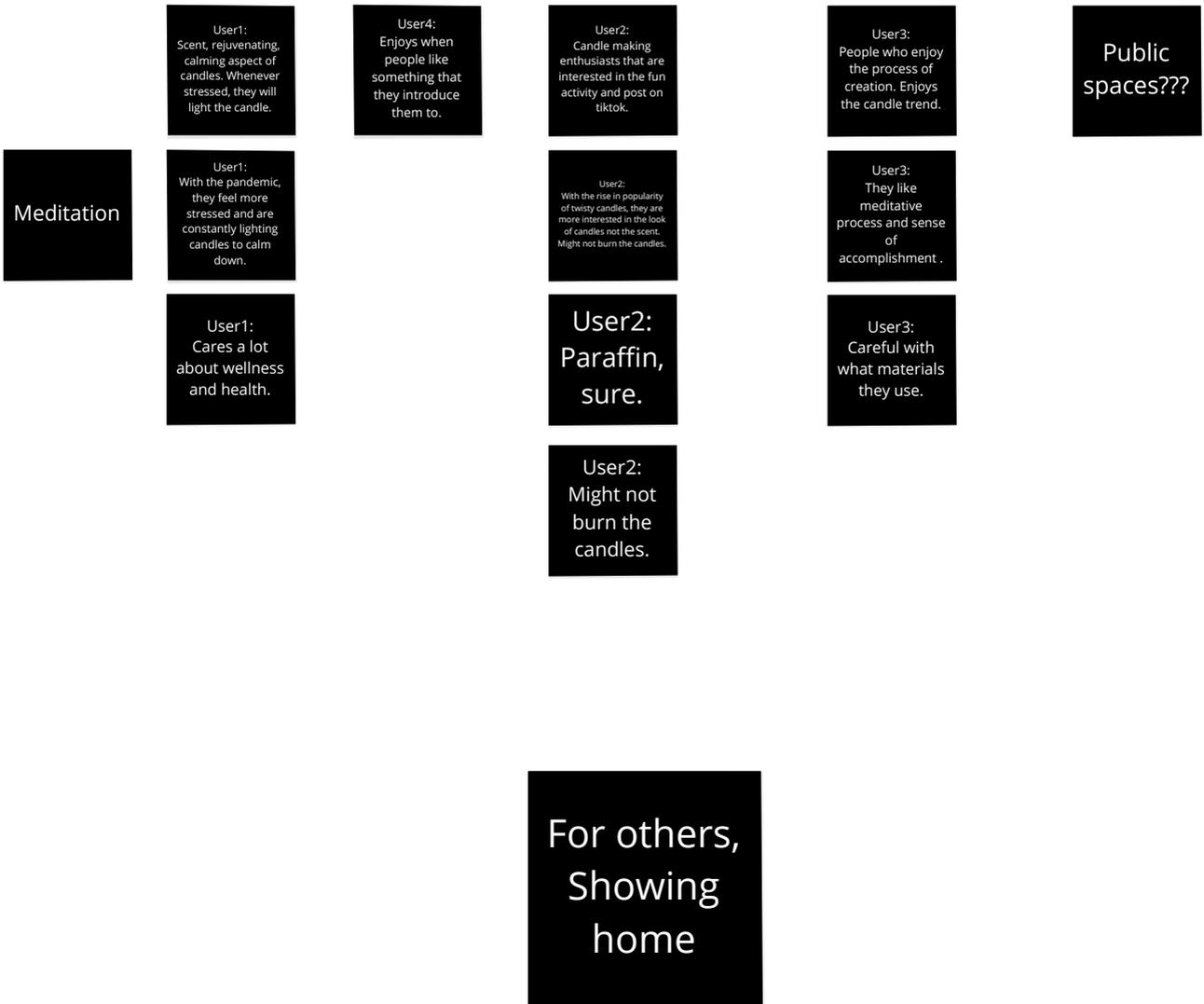
Concern and doubt for how it impacts health

Purpose is key. Just being a cute piece isn't enough.

Sensitivity to scent

User Archetype Analysis

No DIY ————— DIY yes



User Archetype Analysis

Non-Users

User5:
People who
hate
scents.

User6:
Scared of
burning
house

User7:
Scared of
hurting
pets

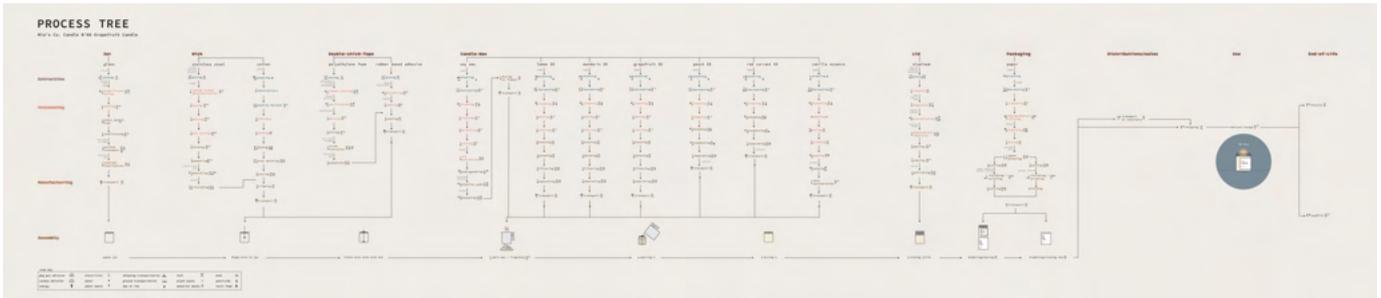
User5:
Maybe
buys visual
candles

User6:
Living in an
older home
with a lot of
wood

User7:
Many scents
are harmful
towards pets.

LCA Completed

Details in Midterm + Final Slides



INVENTORY MATRIX
Mia's Co. Candle #100 Grapefruit Candle

Stage	Material Input	Energy Use	Waste Extraction
Raw Material Extraction	Wax (Soybean, Coconut, Palm, etc.)	Electricity	Waste (Soybean, Coconut, Palm, etc.)
Material Processing	Wax (Soybean, Coconut, Palm, etc.)	Electricity	Waste (Soybean, Coconut, Palm, etc.)
Component Manufacturing	Wax (Soybean, Coconut, Palm, etc.)	Electricity	Waste (Soybean, Coconut, Palm, etc.)
Assembly and Packaging	Wax (Soybean, Coconut, Palm, etc.)	Electricity	Waste (Soybean, Coconut, Palm, etc.)
Distribution and Purchase	Wax (Soybean, Coconut, Palm, etc.)	Electricity	Waste (Soybean, Coconut, Palm, etc.)
Installation and Use	Wax (Soybean, Coconut, Palm, etc.)	Electricity	Waste (Soybean, Coconut, Palm, etc.)
Cycle: Reuse	Wax (Soybean, Coconut, Palm, etc.)	Electricity	Waste (Soybean, Coconut, Palm, etc.)
Cycle: Recycle	Wax (Soybean, Coconut, Palm, etc.)	Electricity	Waste (Soybean, Coconut, Palm, etc.)
Cycle: Disposal	Wax (Soybean, Coconut, Palm, etc.)	Electricity	Waste (Soybean, Coconut, Palm, etc.)



OKALA IMPACT ASSESSMENT
Mia's Co. Candle #100 Grapefruit Candle

Material	Amount	SWt	Global Factor Point	SWt	Global Impact Points
Glass Jar	0.00	76	0.00	76	0.076
Cotton Wick	0.0000	76	0.00	76	0.000
Stainless Steel Holder	0.00	76	0.00	76	0.000
Aluminum Lid	0.00	76	0.00	76	0.000
Paper Label	0.00	76	0.00	76	0.000
Cardboard Box	0.00	76	0.00	76	0.000
Soy Wax (Global x 2)	0.00	947	0.00	947	0.00
Transportation	0.00	1000	0.00	1000	0.00
Aluminum Manuf.	0.00	76	0.00	76	0.000
Stainless Steel Manuf.	0.00	76	0.00	76	0.000

Summary: Total Impact = 0.082 Impact/Point

OVERALL GOALS

User-based

01. Designing a candle that creates warm ambience and helps with stress relief and meditation within the home environment.

02. Designing for candle enthusiasts that value both the look of the candle and the scent of the candle. A piece that users can proudly show in their home.

03. Creating a sustainable, reusable, and recyclable candle with a retail experience that promote the idea of sustainability while making it fun and engaging.

LCA-based

01. Reduce toxic emissions

- + Limiting or eliminating essential oil use
- + Eliminating soy wax
- + Replacing cotton wicks

02. Reduce transportation impacts

- + Sourcing locally
- + Relocating manufacturing
- + Extending product lifetime

03. Improving the process of recycling and reusing

- + Eliminating double stick tape and wick holder
- + Replacing solid glass jars
- + Dematerialize packaging

Week 7-10

Research + Ideation Phase

Mood Boards



Texture and reflection



Ikebana

Material Research



Traditional Japanese candles



Sumac Candle Wax - Japan

Warōsoku are traditional Japanese candles made of 100% natural and plant-based materials. The wax derives from the nuts of sumac lacquer trees (haze) and the wicks are made of washi paper and the piths of rush plants. They burn without dripping or releasing soot and the tall flames sway gently on their own, creating a soothing and calming effect.



Material Research

Assemble- Post-consumer Ceramic Waste

Liverpool-based Granby Workshop has made a series of tableware products from the industrial and post-consumer clay waste that would otherwise be sent to landfill. Comprised of a series of large and small plates, bowls and a mug, the new dinnerware forms Granby Workshop's core collection. The studio - a social enterprise set up by Turner Prize-winning architecture collective Assemble - plans to grow the collection in future years.



Granby Workshop used materials taken from industrial and post-consumer waste streams for both the clay and glaze recipes.

"Basically before any water is returned to the mains from a factory producing tableware, bricks or any other ceramic products, it needs to be clean - so all the silty, sludgy, muddy residues are filtered out as a waste sludge," said Granby Workshop co-founder Lewis Jones.

Clay Body: combination of industrial clay wastes from a range of producers.

Glaze: clay waste along with crushed recycled glass, dust from slate, granite and marble quarrying, recycled, magnesia-rich refractory bricks and fired ceramic waste - such as broken plates, tiles, bricks and bowls - that are crushed into fine powders.

They differ from normal glazes as they take their colouring from the various shades of crushed ceramics instead of pure stains, forming unique, speckled colours.

Material Research



Hydrosol

Byproduct of essential oils. A large amount is produced compared to essential oils



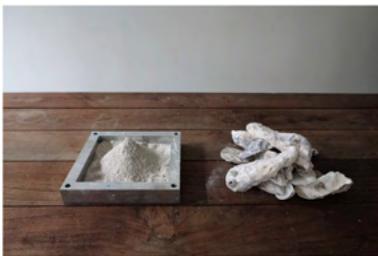
Sea stone Terrazzo- Newtab 22

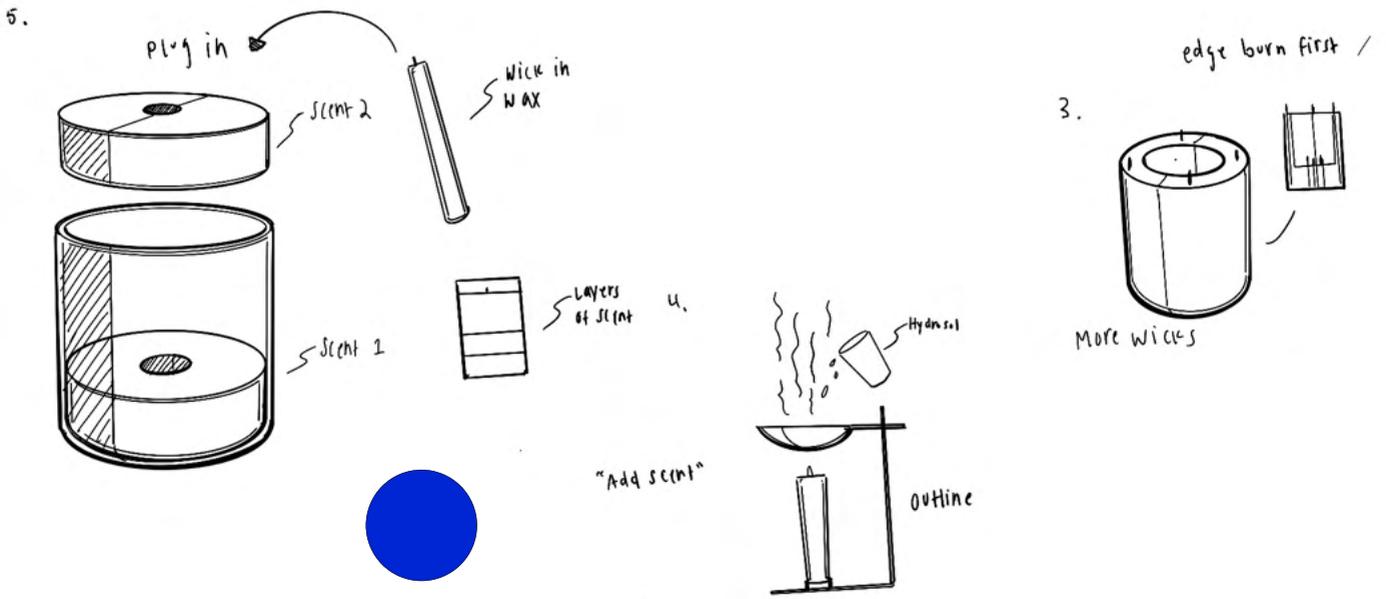
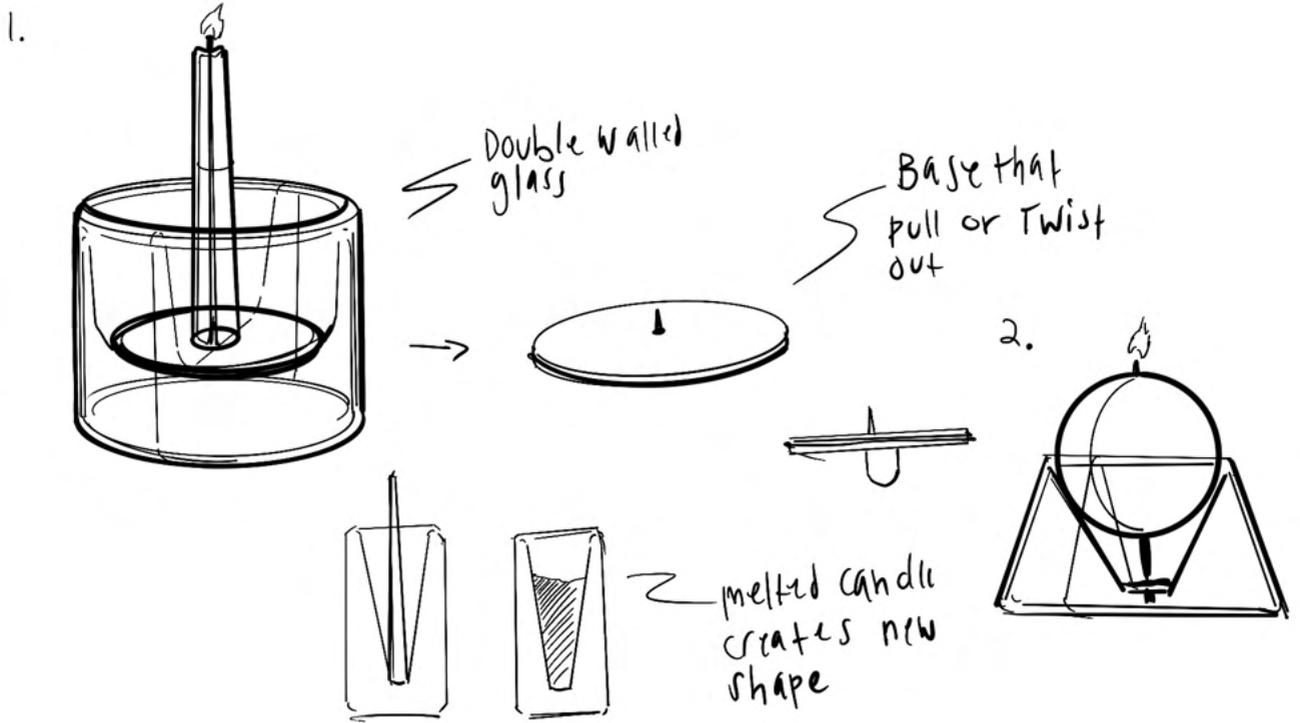
Every year, 7 million tons of Seashells are discarded by the fishing industry and by aquafarming.

A part of this waste is then reused to make fertiliser, but the vast majority lies abandoned along shores and coastlines, creating smelly mounds or goes to landfill.

Yet these shells are materials with high potential, which consist of over 90% calcium carbonate, containing similar to the one of what calcium carbonate in the limestone contains and seen as a valuable biomaterial.

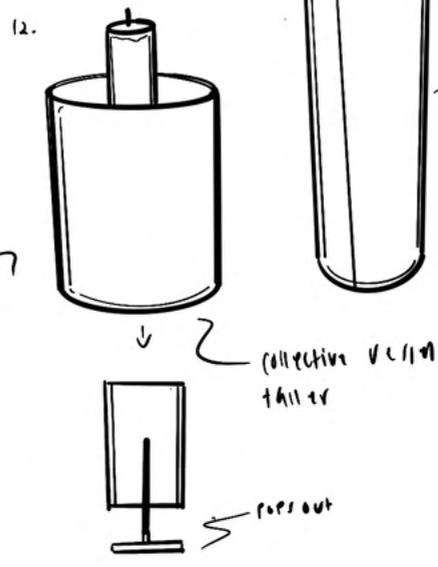
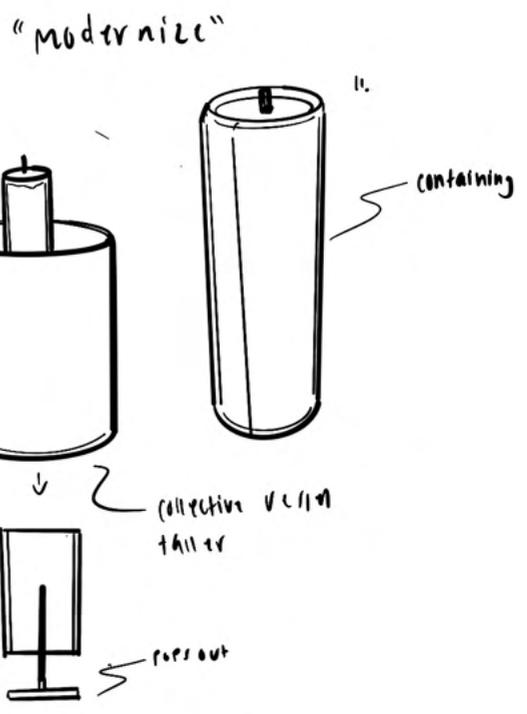
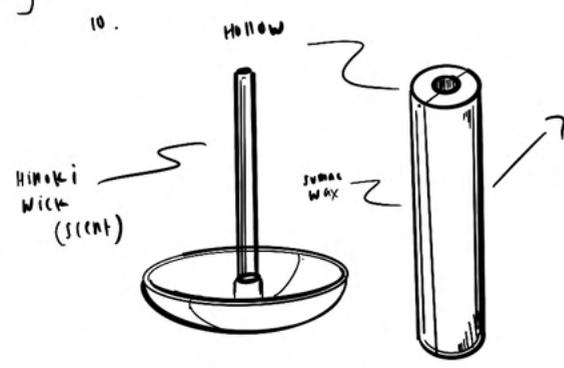
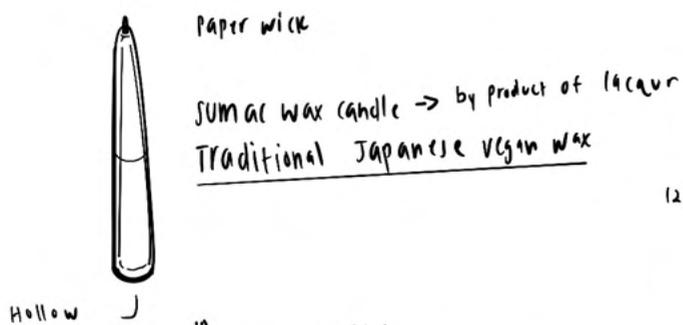
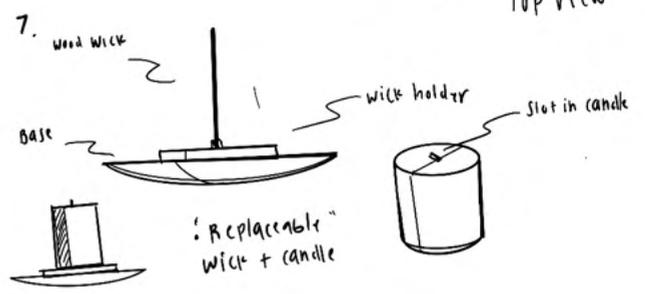
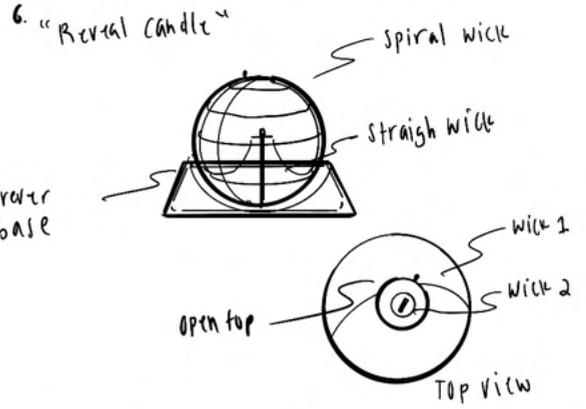
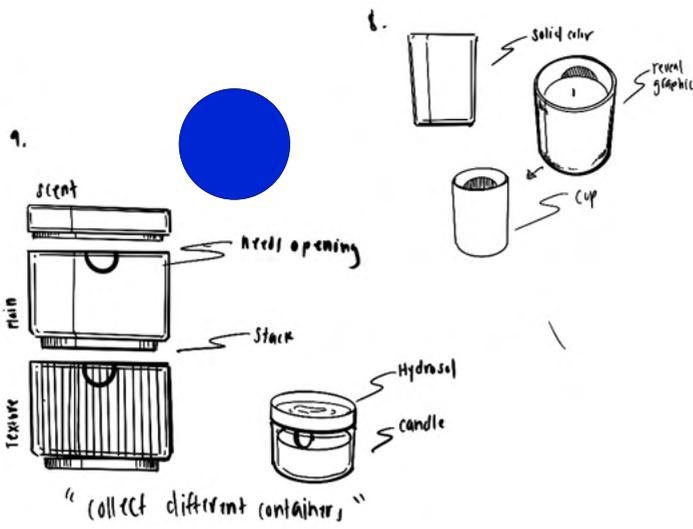
Making method is manual to avoid heat, electricity, and use of chemicals as much as possible.

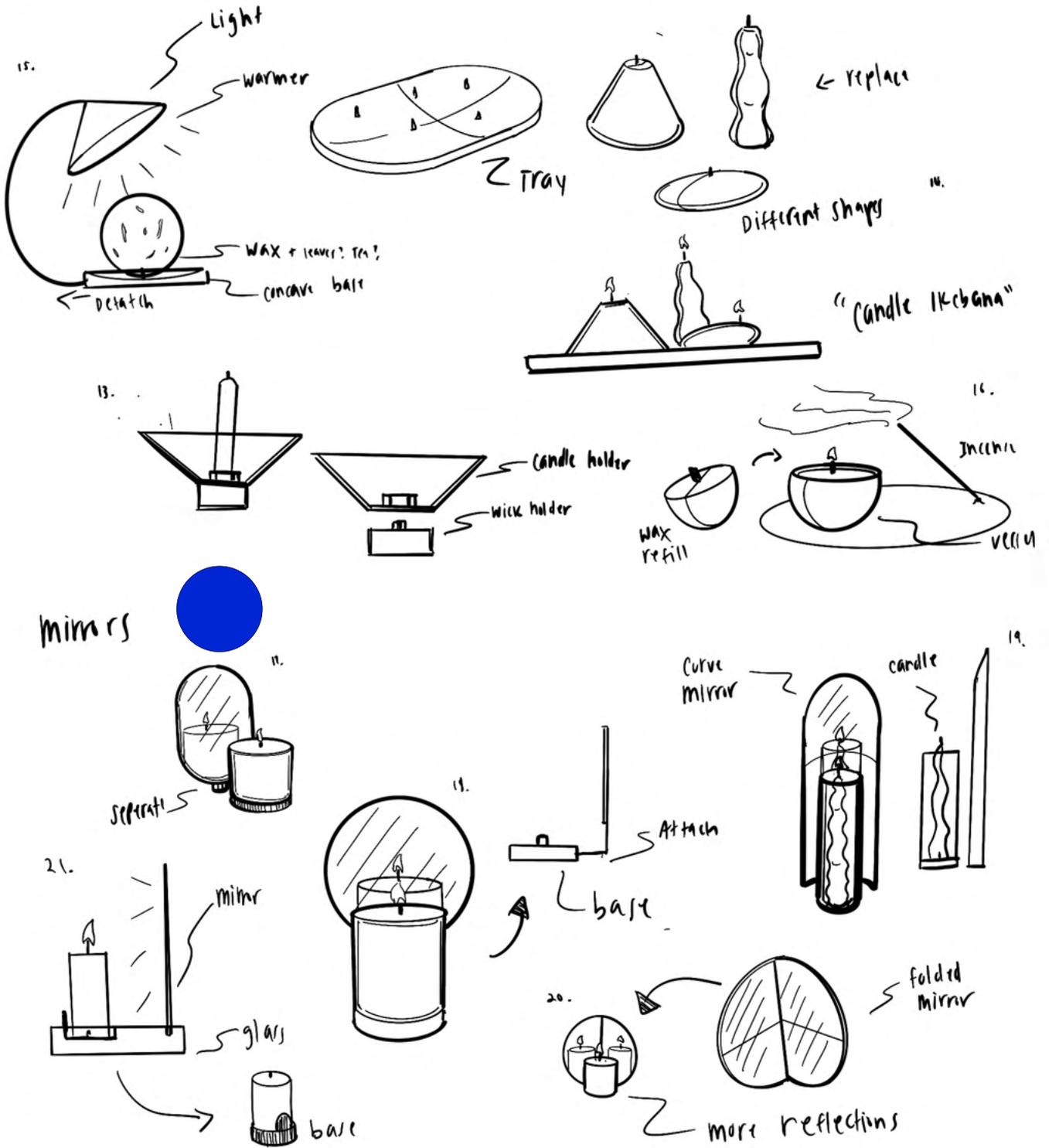




Sarah

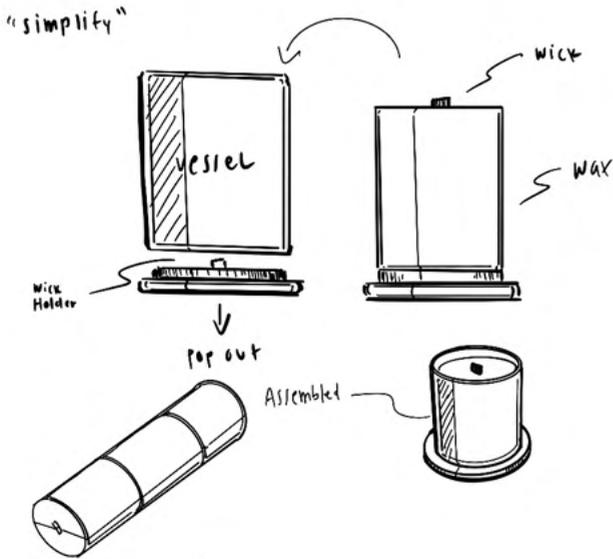
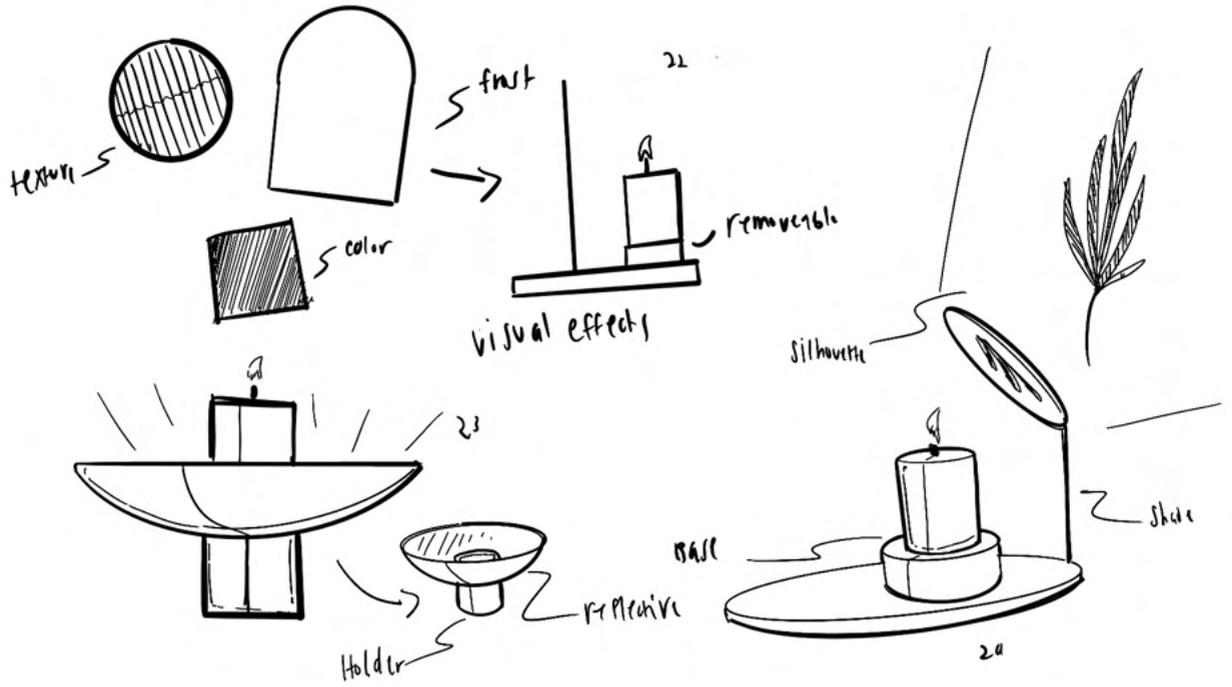
Ideation Round 1





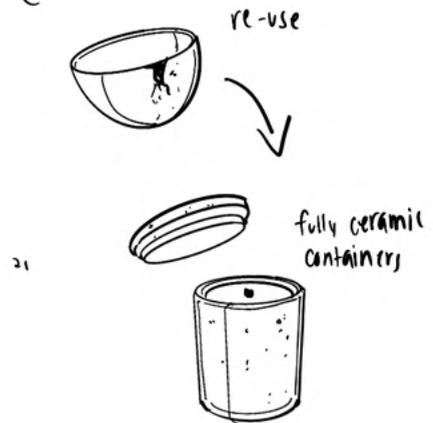
Sarah

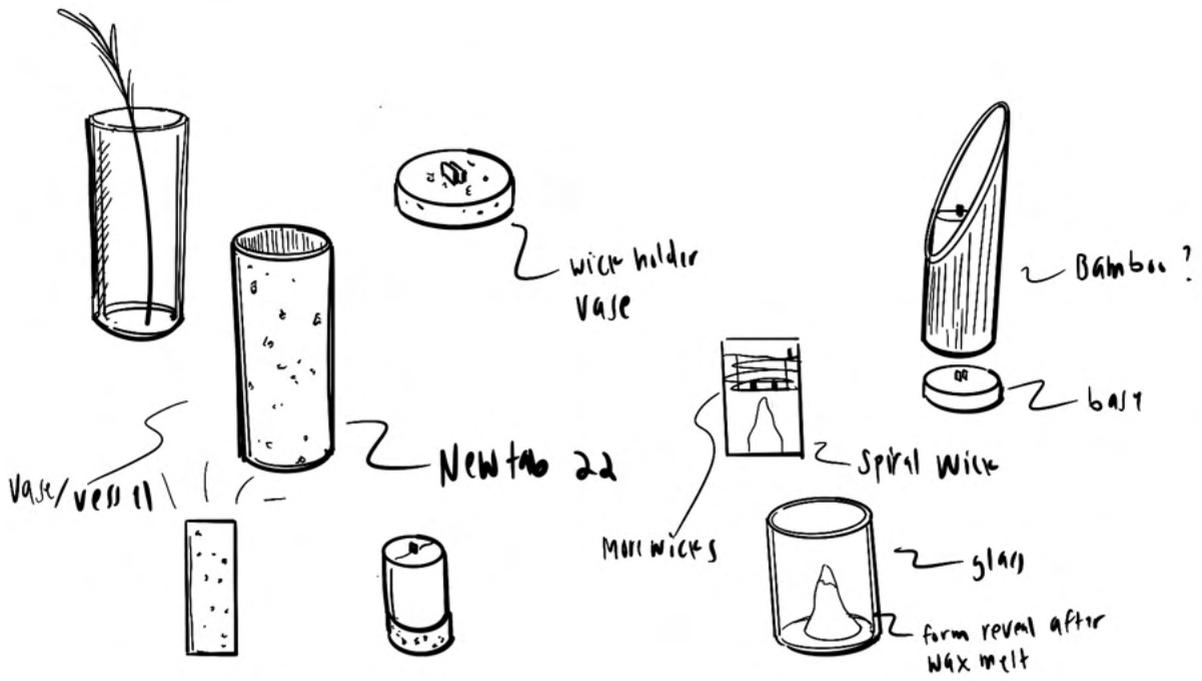
Ideation Round 1



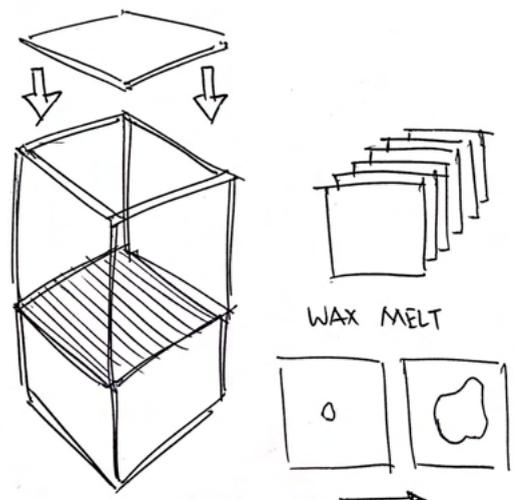
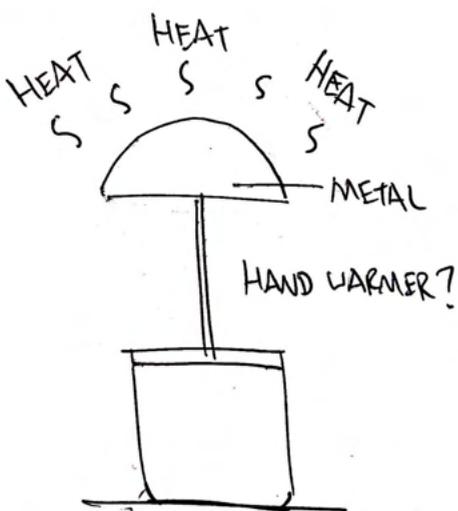
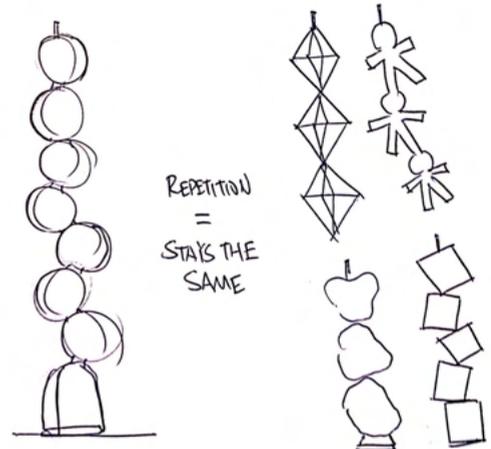
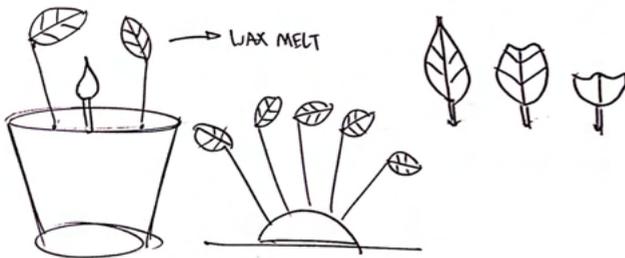
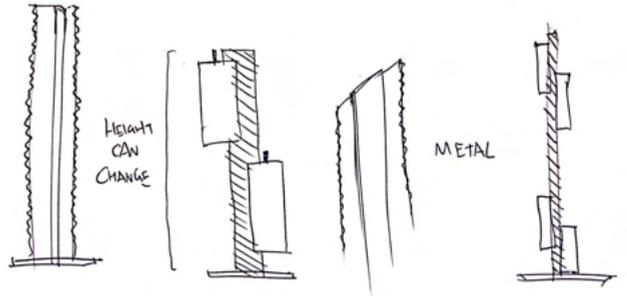
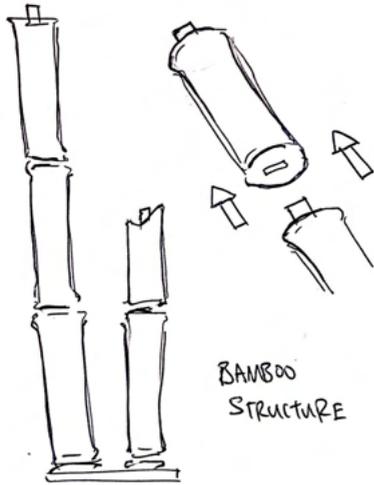
recycle ceramics!

- broken or discarded ceramics contribute to 150,000 tons per year
(source all in Japan)

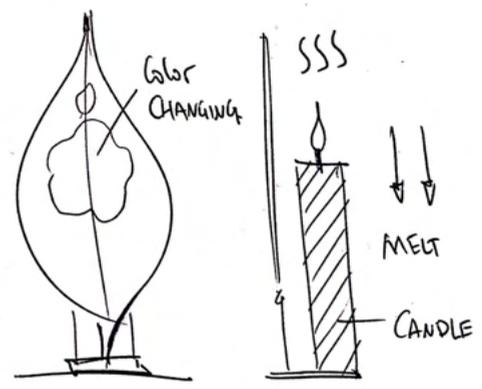
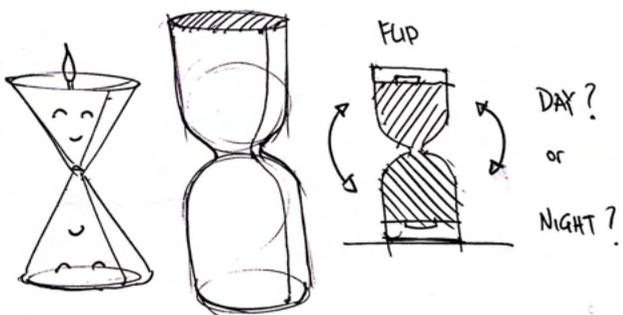
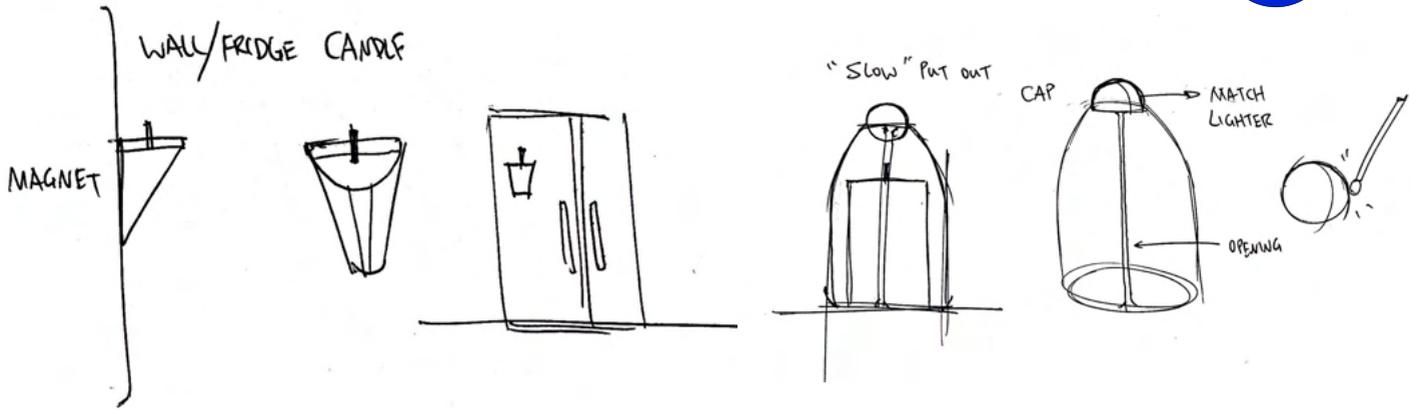
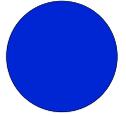




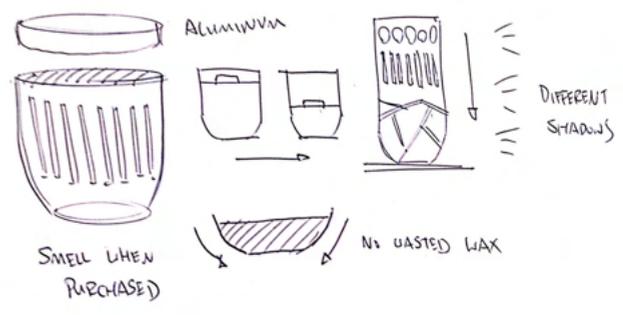
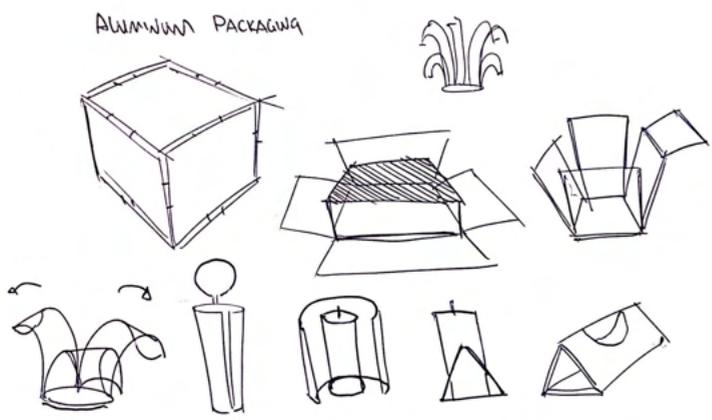
Ideation Round 1



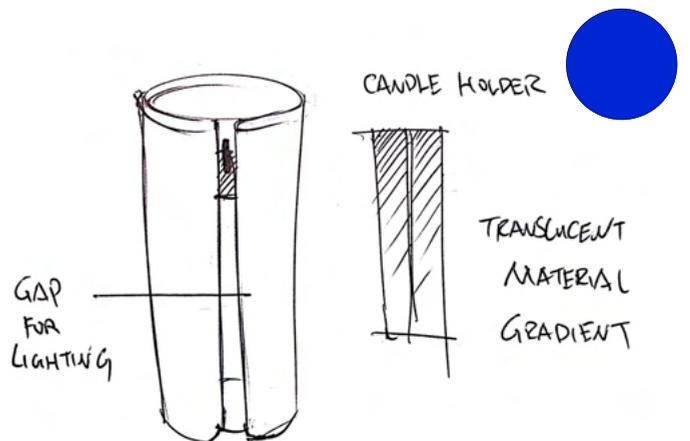
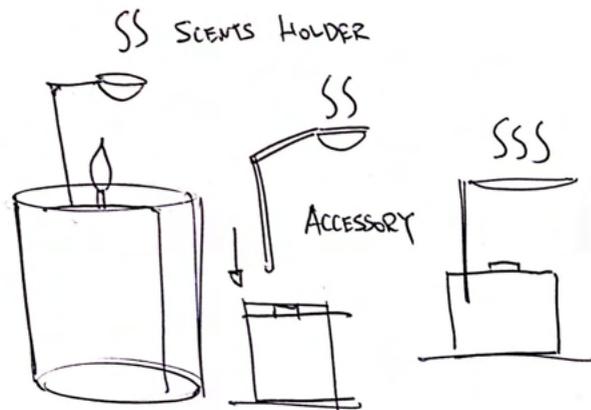
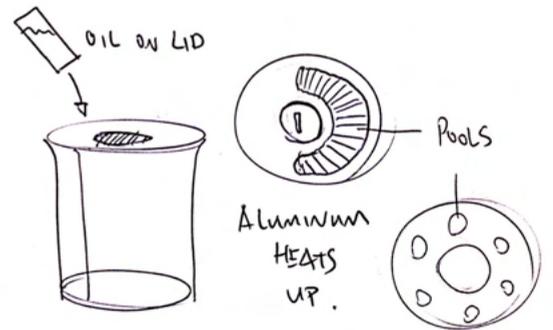
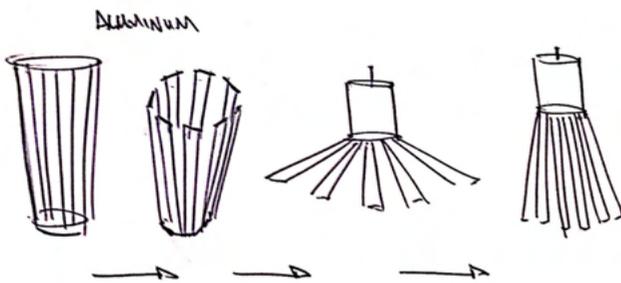
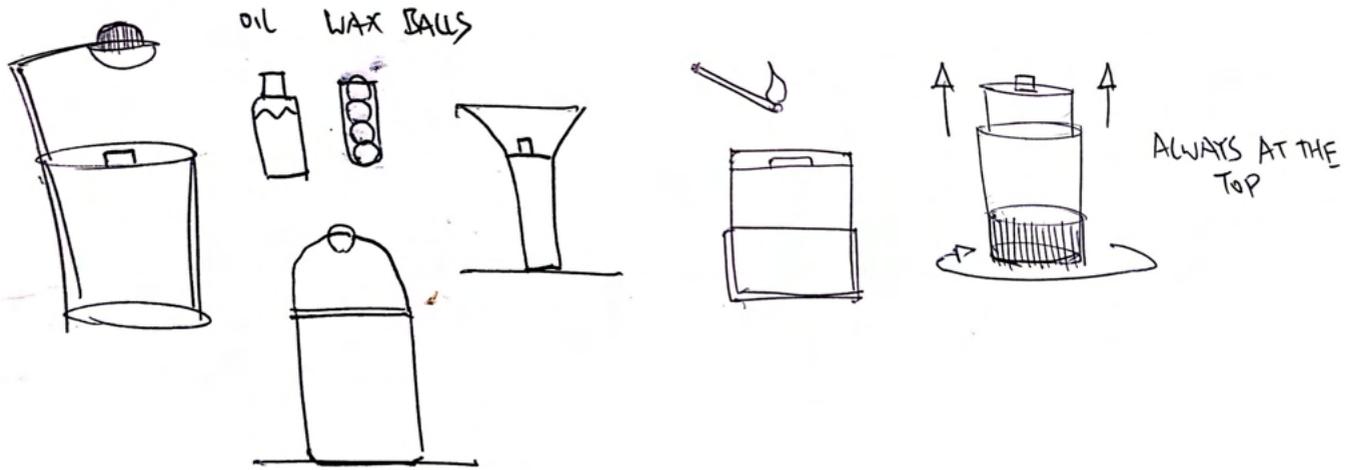
Ideation Round 1



THERMAL CHROMATIC



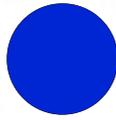
Ideation Round 1



Johannes

Ideation Round 1

REFLECTIONS AS IT MELTS

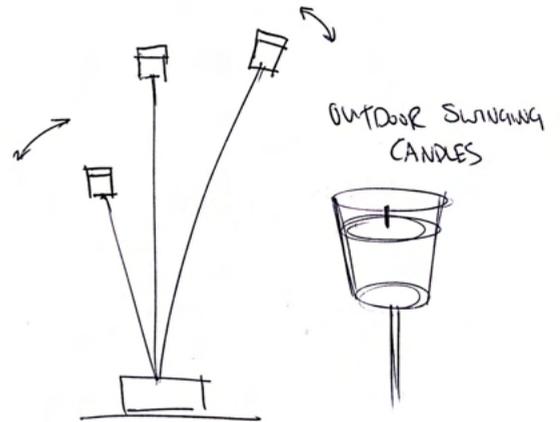
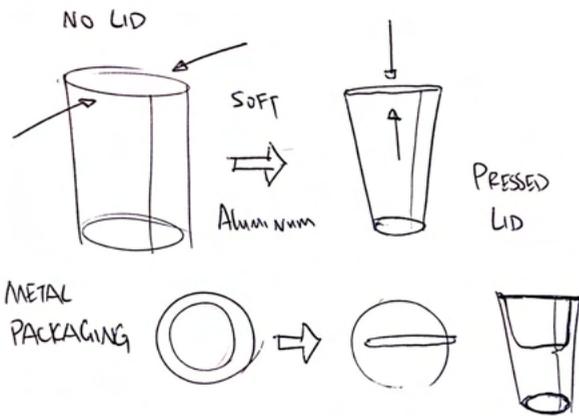
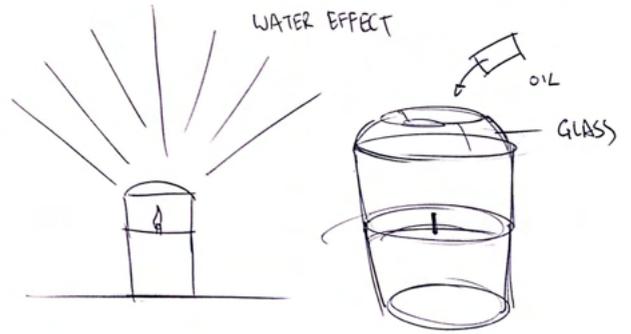


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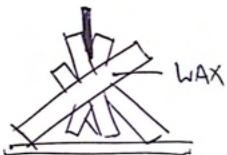


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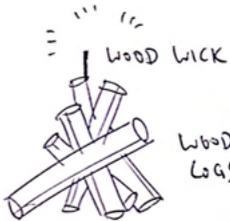
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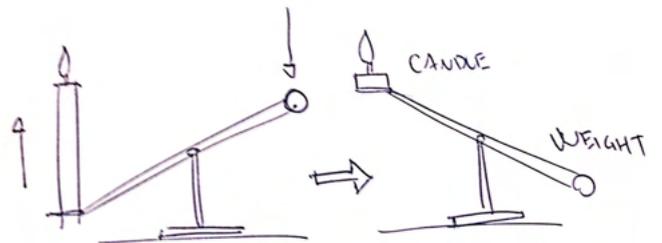
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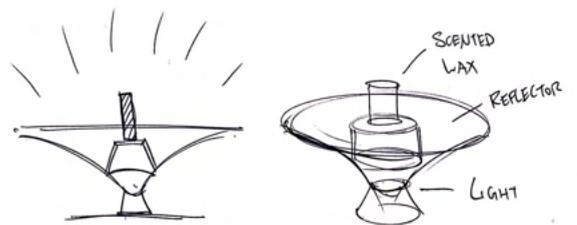
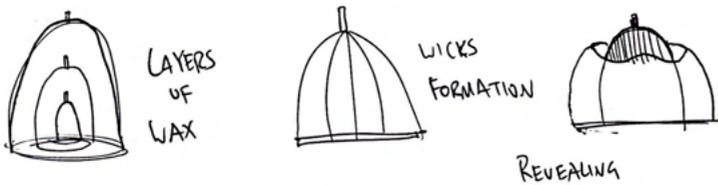
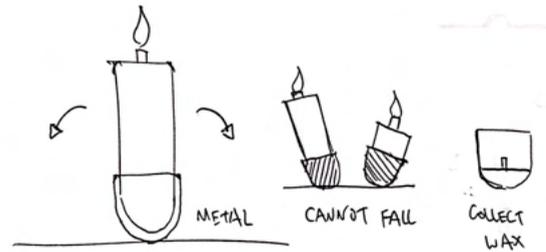
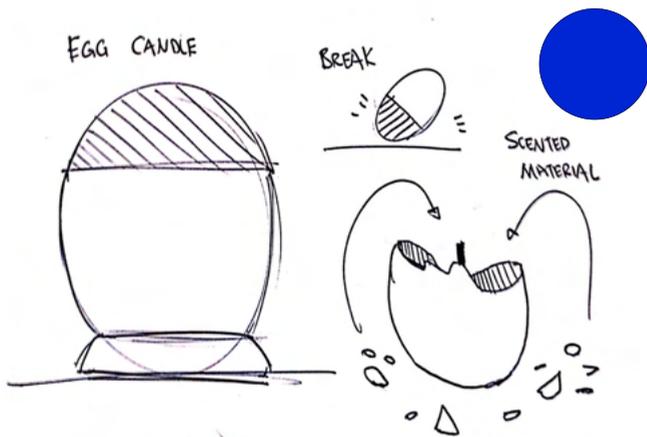
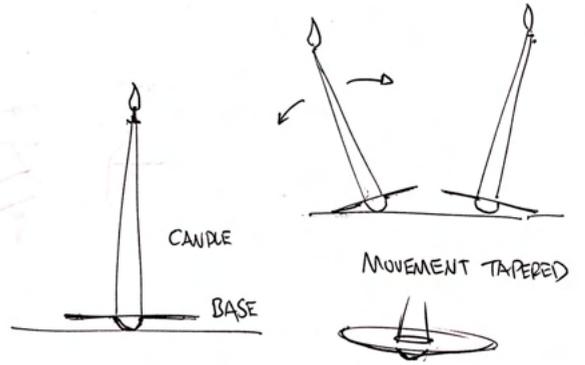
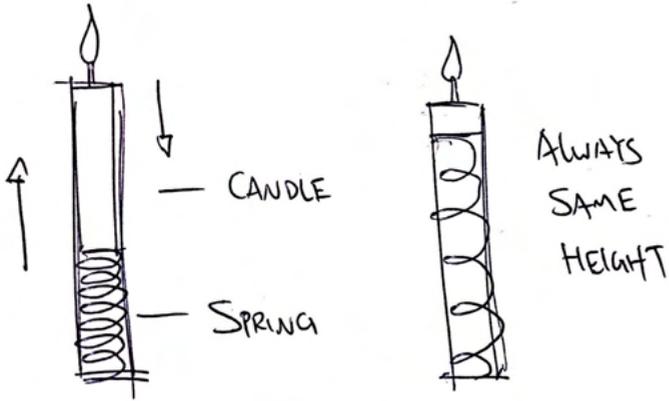


WOOD
LOGS



Johannes

Ideation Round 1



Ideas To Refine For Round 2

Visual Light + shadow + Reflection

Scents Layering

Custom/modular

Promoting sustainability

Packaging Solutions

Sarah

Visual Inspiration

Inspiration



Soap Colors and Arrangements



Terrazzo Soaps

Each color is a different scent and so in use, people can smell a mix of these separate scents.



Wood Bento-like Packaging

Engraving is available

Wax Material Refinement

For beeswax to be cruelty-free, it has to be harvested at a low rate, so that there are no real negative effects on the colony, however there are many practices that are bad.



Bees Wax

Beeswax has a natural golden hue and honey scent. This makes it a great standalone candle but one that can be **difficult to blend with other scents**. You can find bleached beeswax, which is white; however, due to this 'process', it leaves the candle sad, with minimal scent throw.

Must blend with either another wax for a higher melting point



Coconut Wax Benefits

Coconut oil is made via a natural process.

Made from renewable sources, that can replenish at a faster rate than many alternatives. The tree does not have to be cut down only the fruit, leaving the tree to produce more, providing a long-term, reliable supply.

Coconuts are not genetically modified (as seen with soy).

The deforestation practices linked with palm oil are not associated with the coconut industry.

Coconut wax burns slowly and cleanly and throws scent extremely well.

Maybe a blend?



+



Natural Wax Coloring Method



How to naturally color candles (herbs and spices) :

1. Place some wax in a double boiler and melt.
2. Place an equal amount of herbs in a heat sealable tea bag or a coffee filter tied off with some string.
3. Toss the herbal bag into the pot of wax and allow to steep while over a very low heat until the color of the herb tints the wax. This may take hours.
3. Alternatively : placing the herbs and wax in a bowl and setting it in a water bath in a crock pot where the temperature can be kept low and no need to continually replenish the water.
4. Add this colored wax to candle mixture to color.

<https://www.trueerelaxations.com/color-candles-natural-yes/>

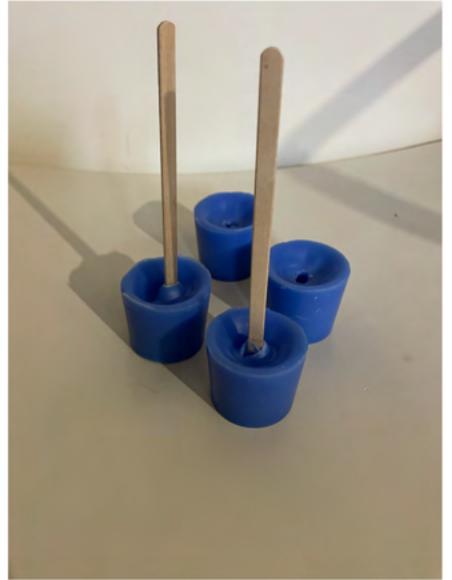
Colors will fade out a bit once wax is dried

- Alkanet Root - Purple to red color
- Annatto Seeds - Yellow color
- Kelp - Natural green color
- Lemon Peel - Yellow to orange color
- Madder Root - Peach color
- Orange Peel - Natural orange color
- Paprika - Deep, rich orange color
- Indigo - Blue color
- Rosehips - Burgundy red color
- Rosemary - Natural green color
- Spirulina - Warm green color
- Cloves - Warm Brown

Sarah

Candle Mock-up/Experiments

Process: Melting and molding



I used **Paraffin wax** and **popsicle sticks** since they were easier for me to find in the store

01. Layering and connecting candle wax with wick



2 different candles
With slots for wick

Stacked and connected
with wick

Placed on a base

Lit

Continues to burn evenly over time

Sarah

Candle Mock-up/Experiments

All these candles had wicks added after solidifying, they worked well with even burn



I coated the popsicle sticks in wax before sticking them in the wax

Candle Mock-up/Experiments

02. Candle in Candle

the first wick (cotton) I tried to recycle from another candle that I melted failed



I tested if additional wicks can be added(wooden) and it worked well



So I just added another scented candle in side



The candle worked pretty well



The waxes melted together and mixed the smells



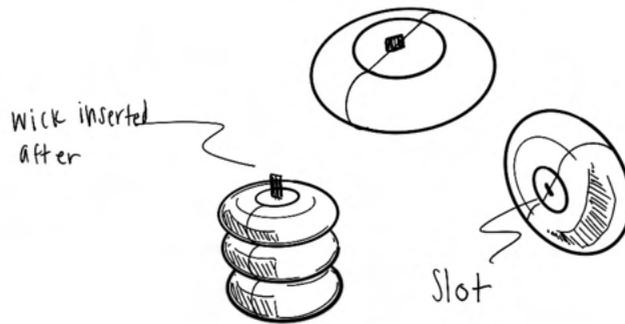
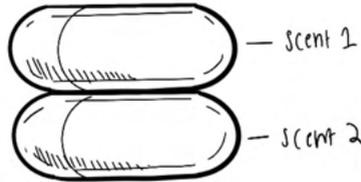
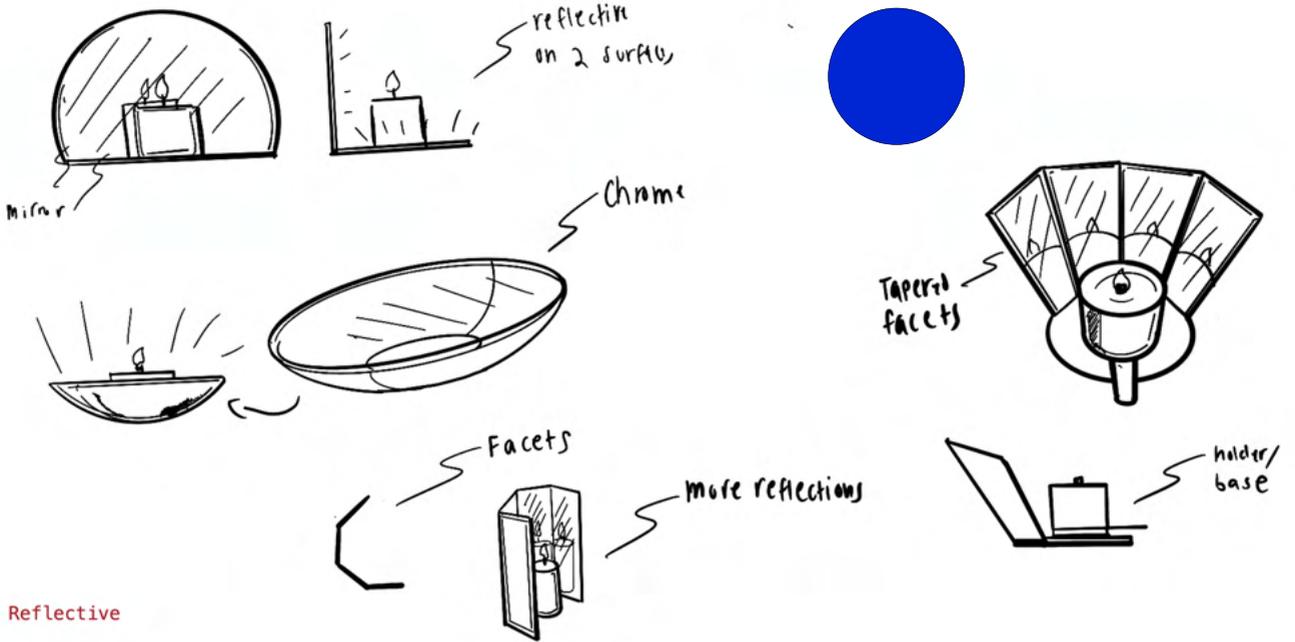
Sarah

Terrazzo Candle Mock-up/Experiments

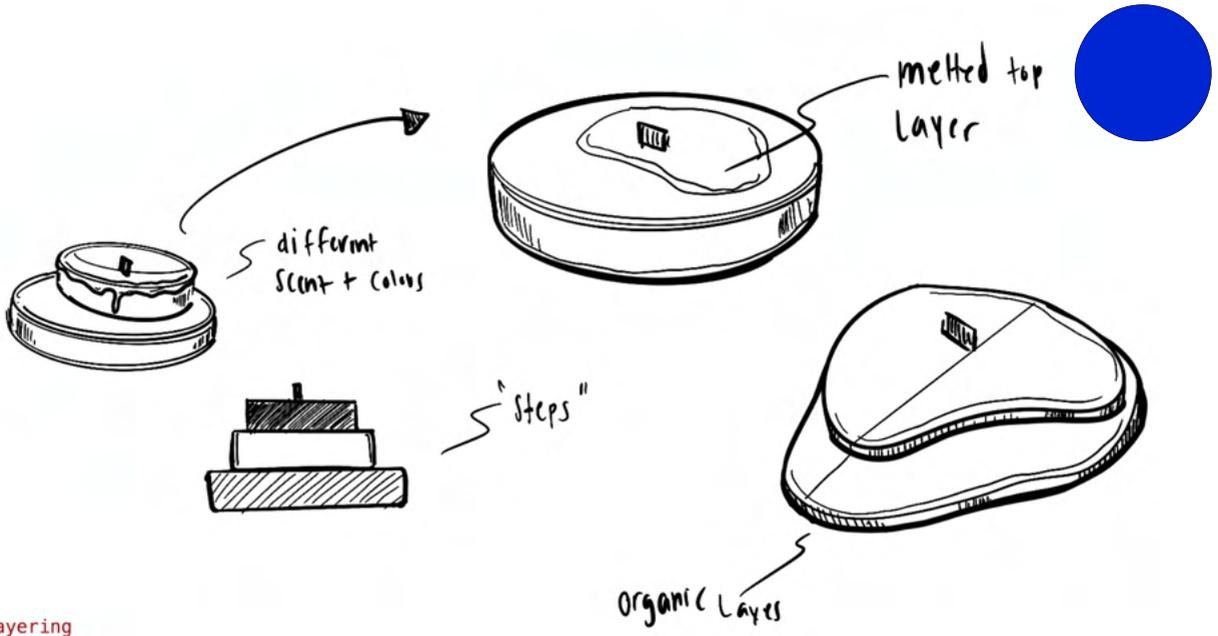


Sarah

Ideation Round 2

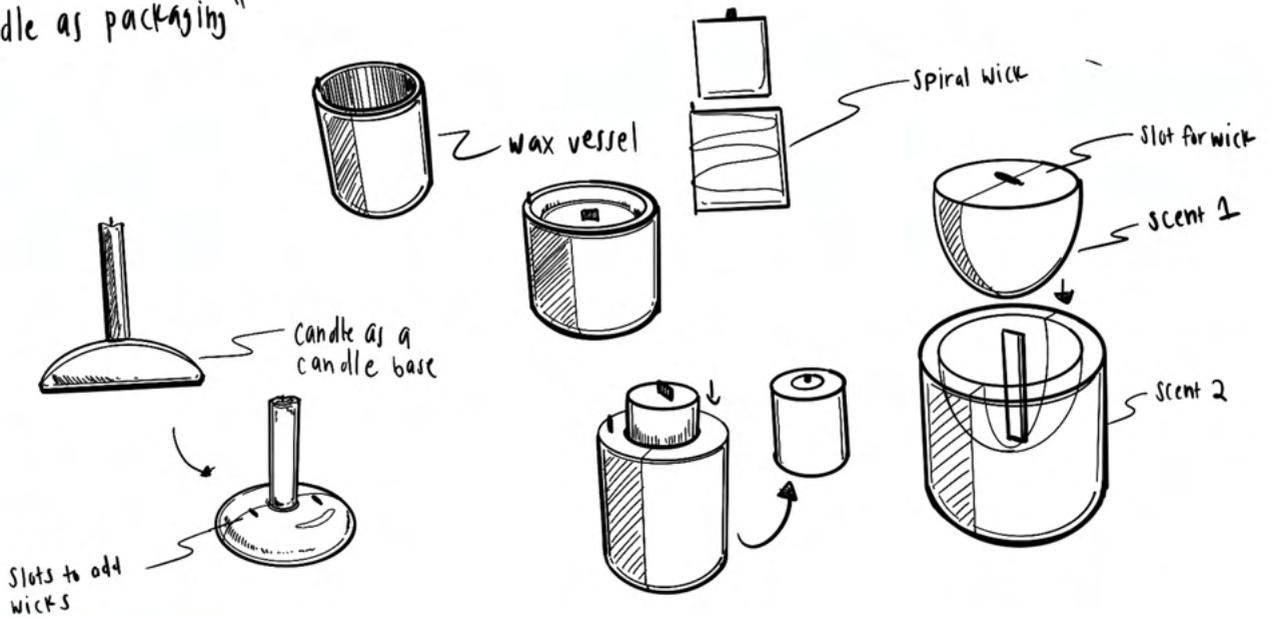


Scent layering



Scent layering

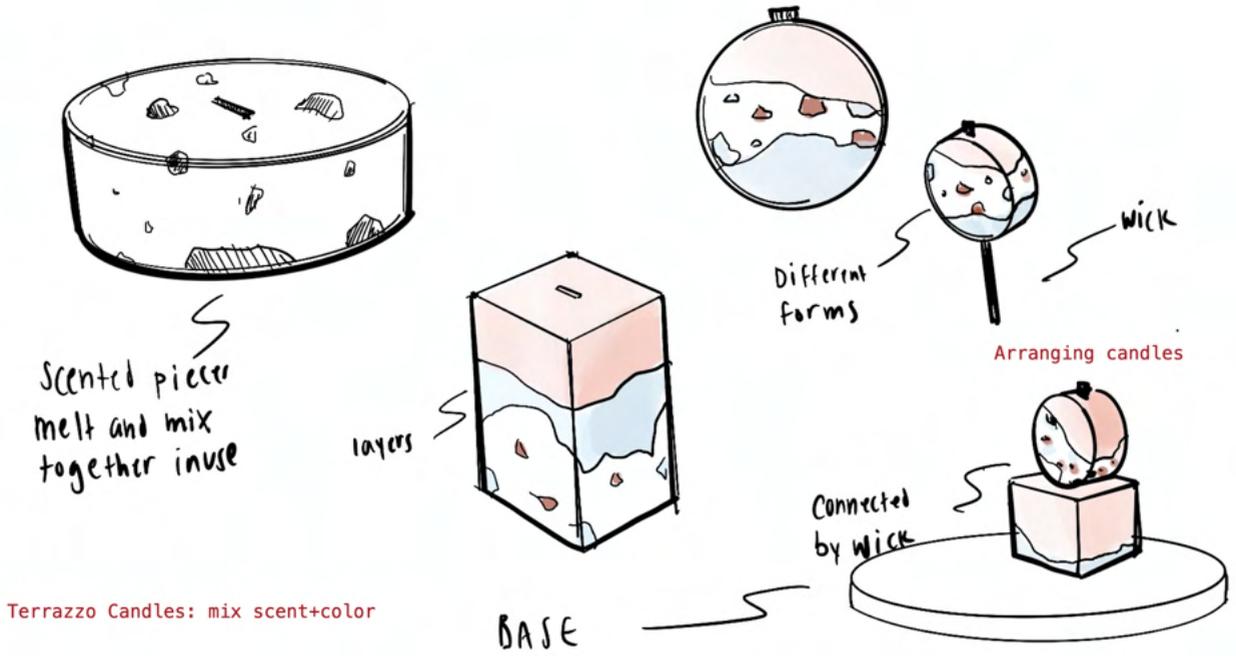
"Candle as packaging"



Candle in Candle

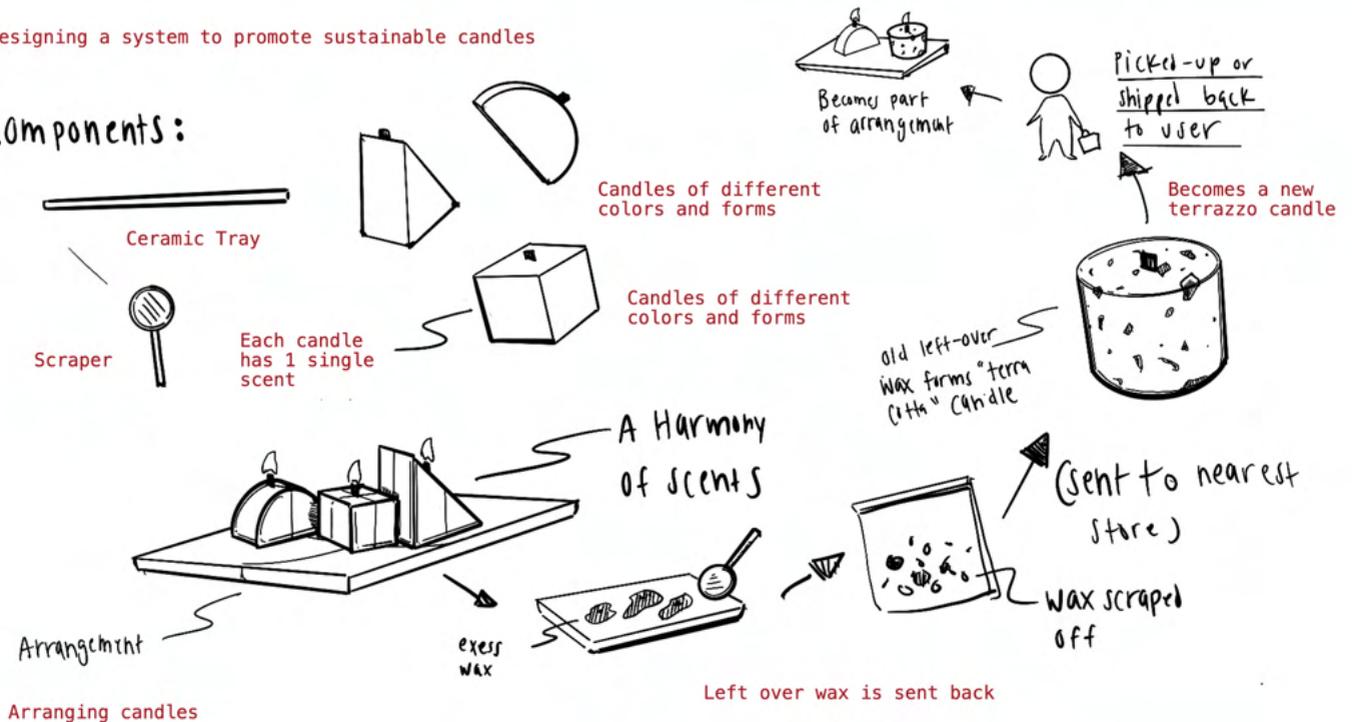
Sarah

Ideation Round 2



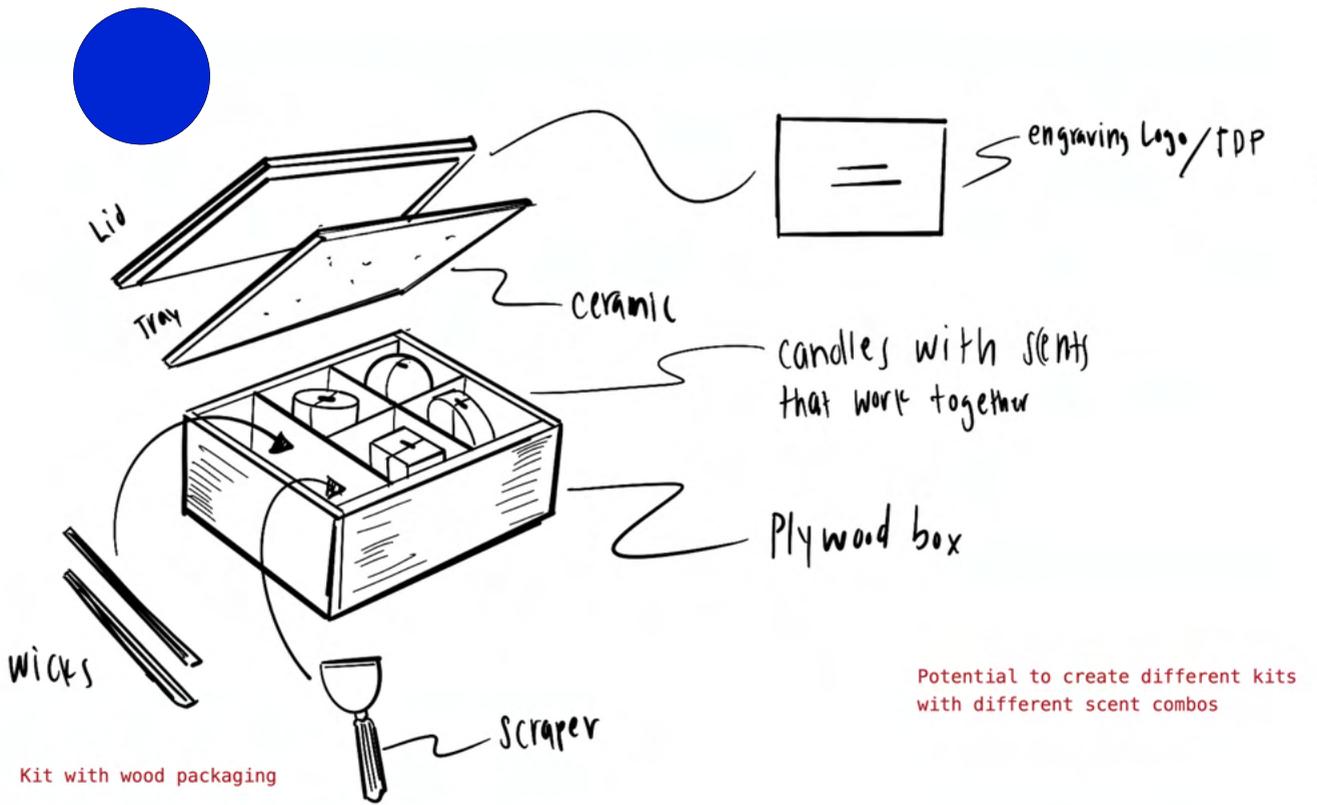
Designing a system to promote sustainable candles

Components:



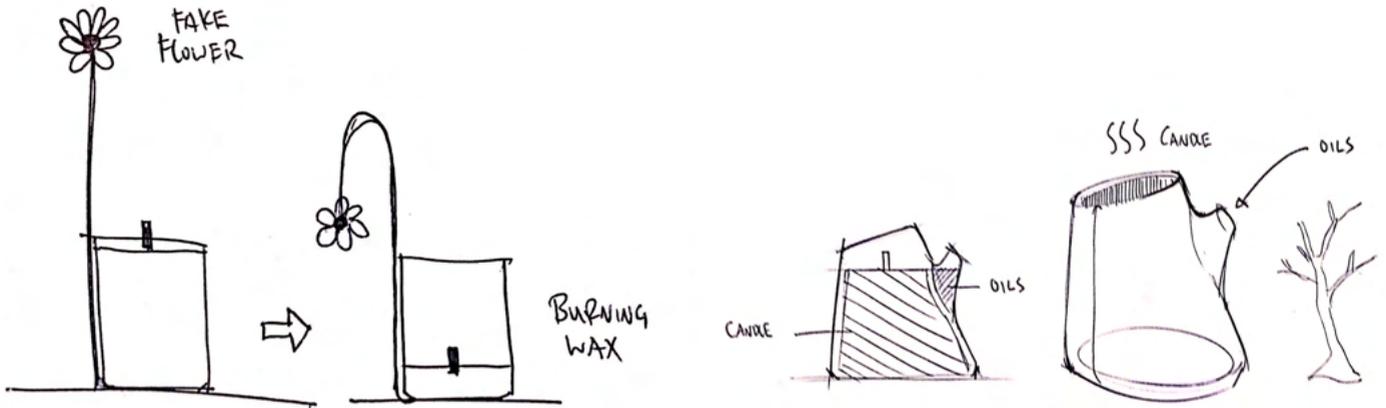
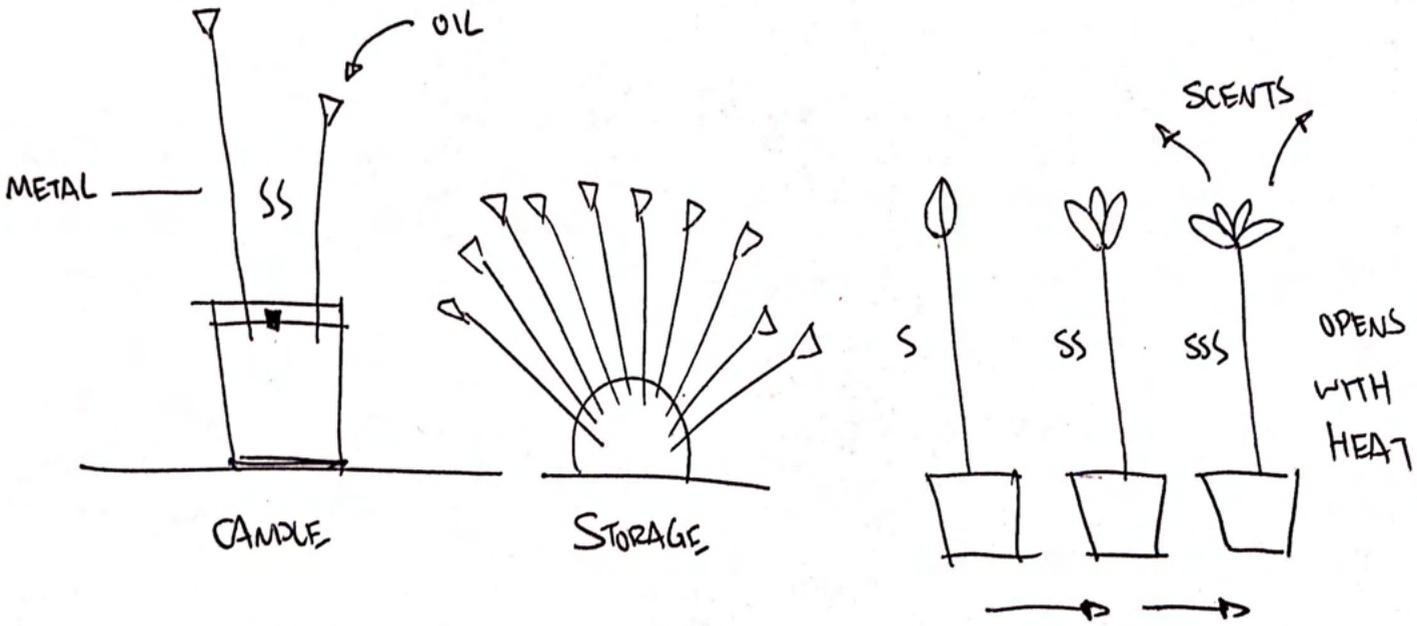
Sarah

Ideation Round 2



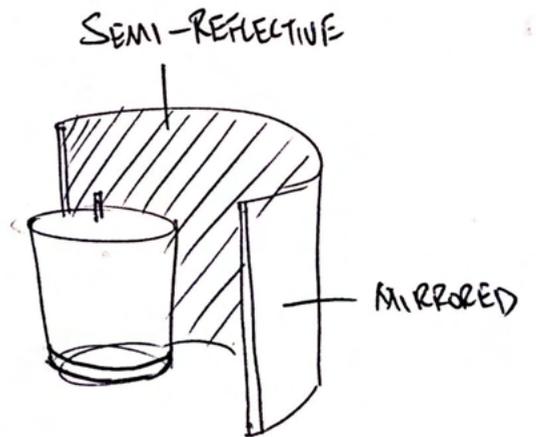
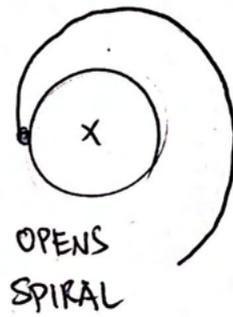
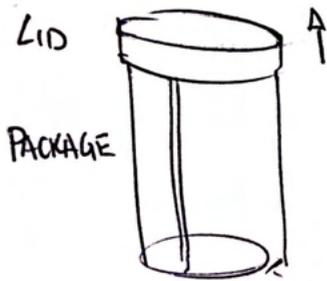
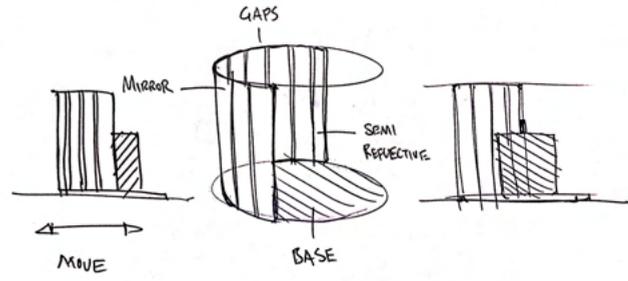
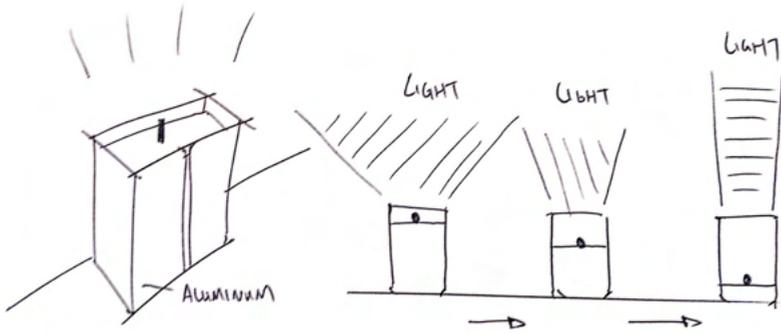
Johannes

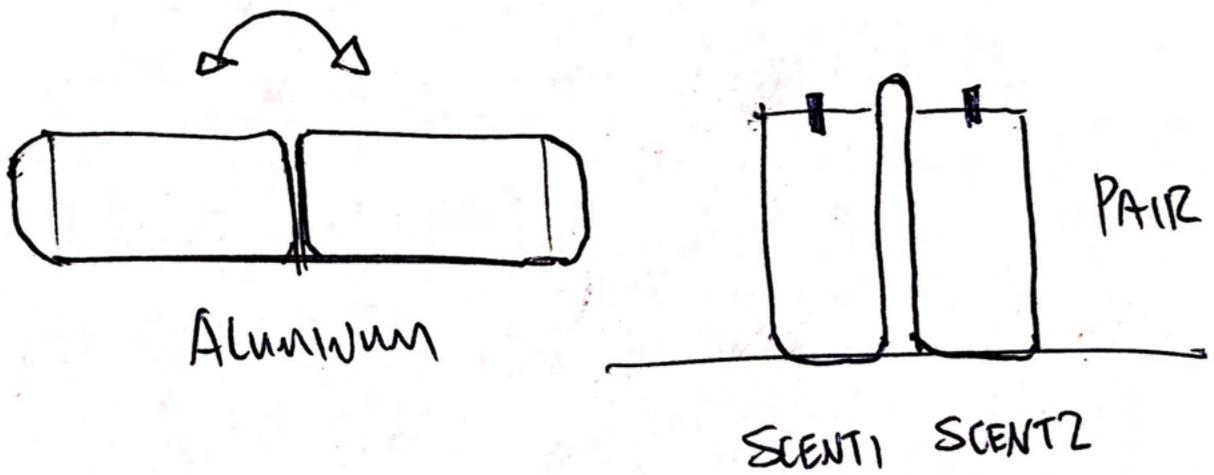
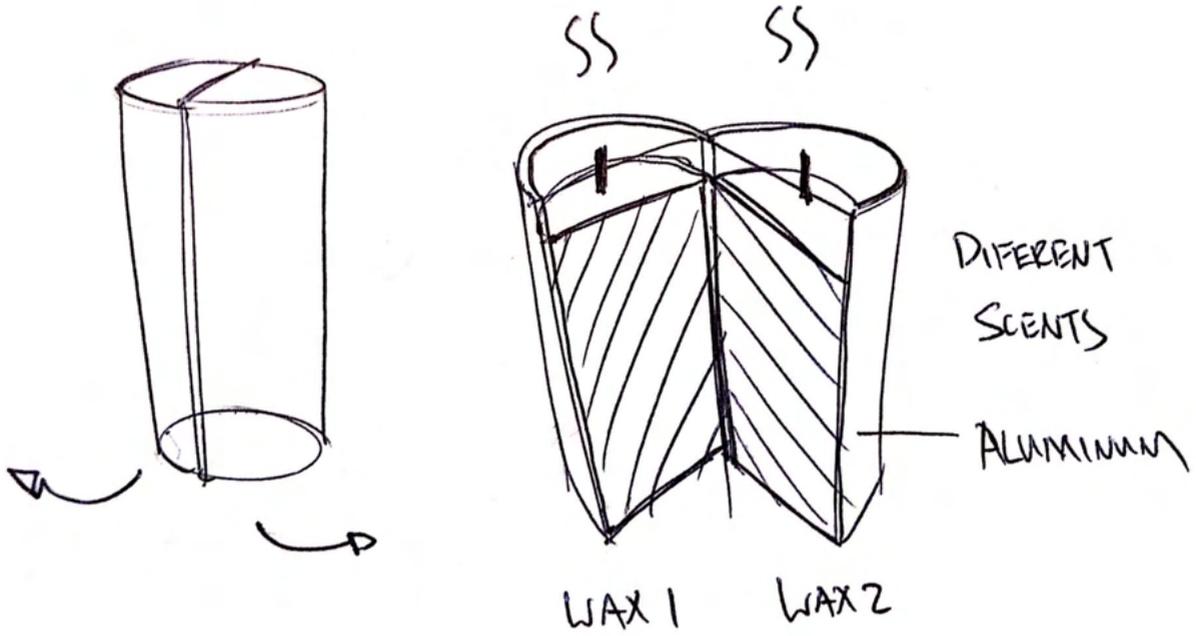
Ideation Round 2



Johannes

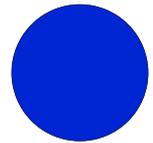
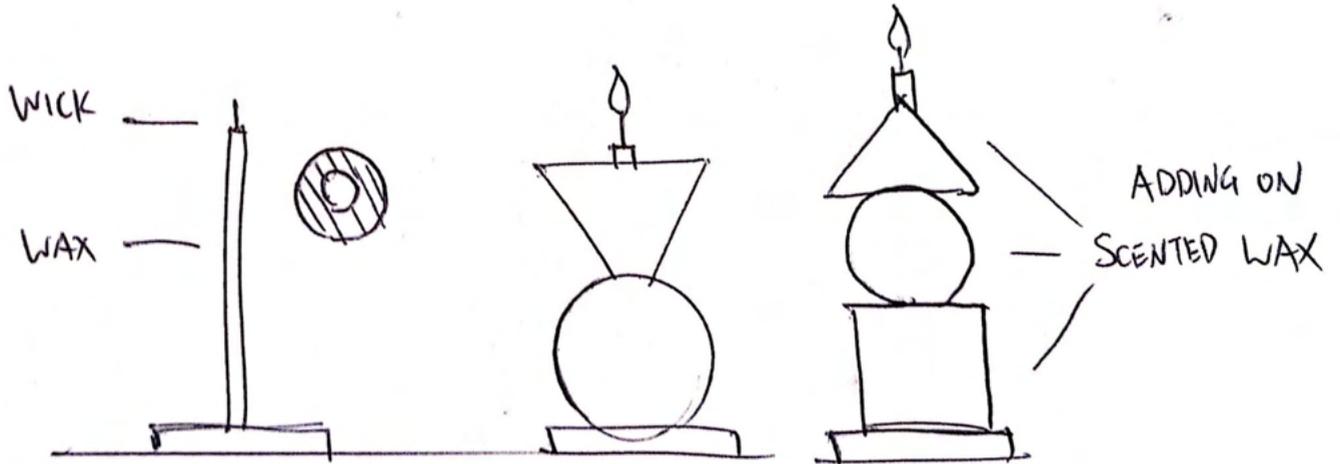
Ideation Round 2



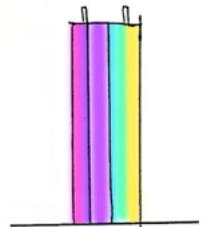
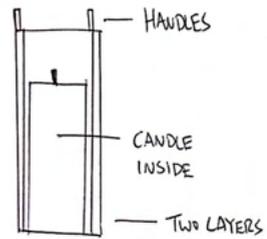
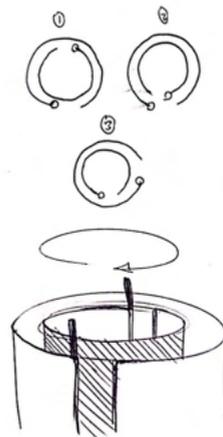
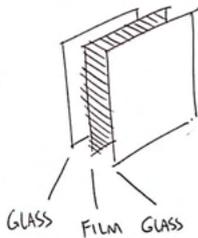


Johannes

Ideation Round 2

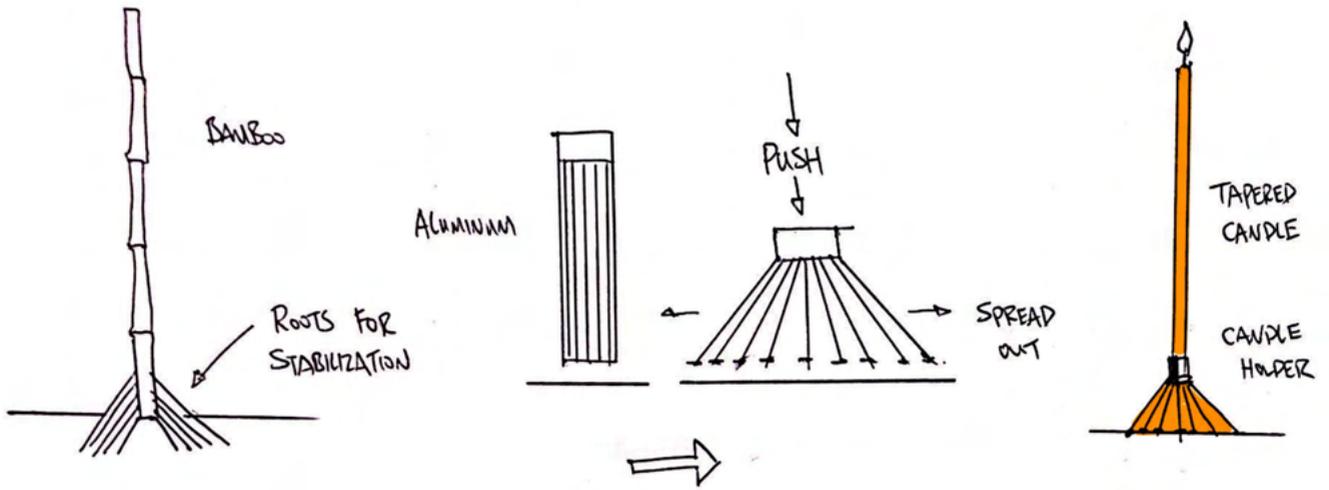
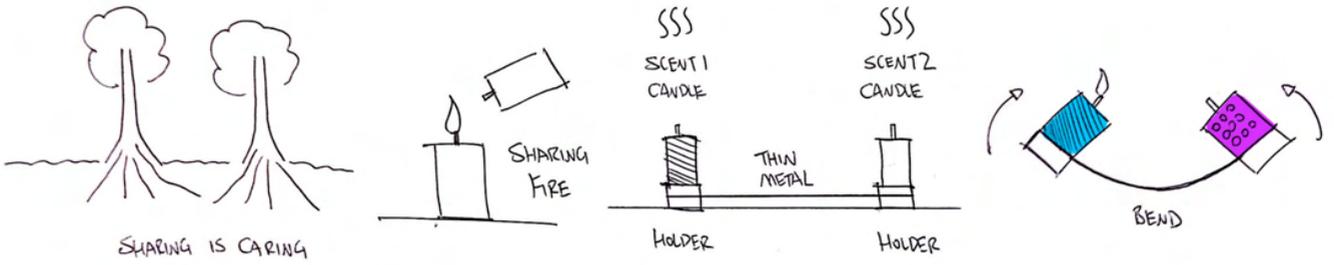


MULTI LAYER
SHELL
CREATING
COLORS



Johannes

Ideation Round 2



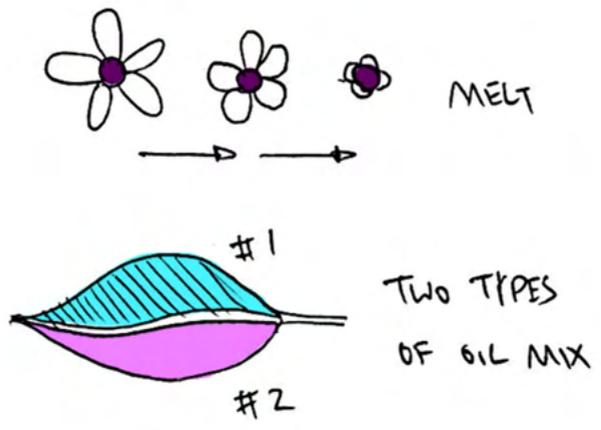
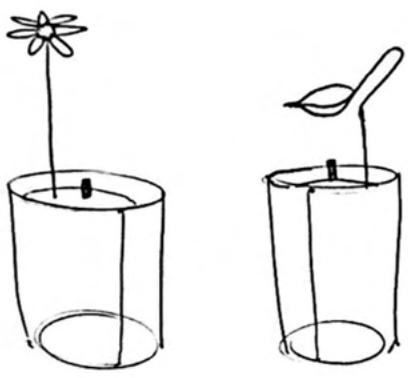
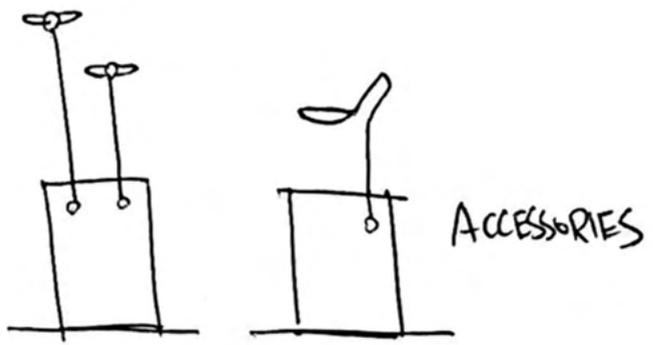
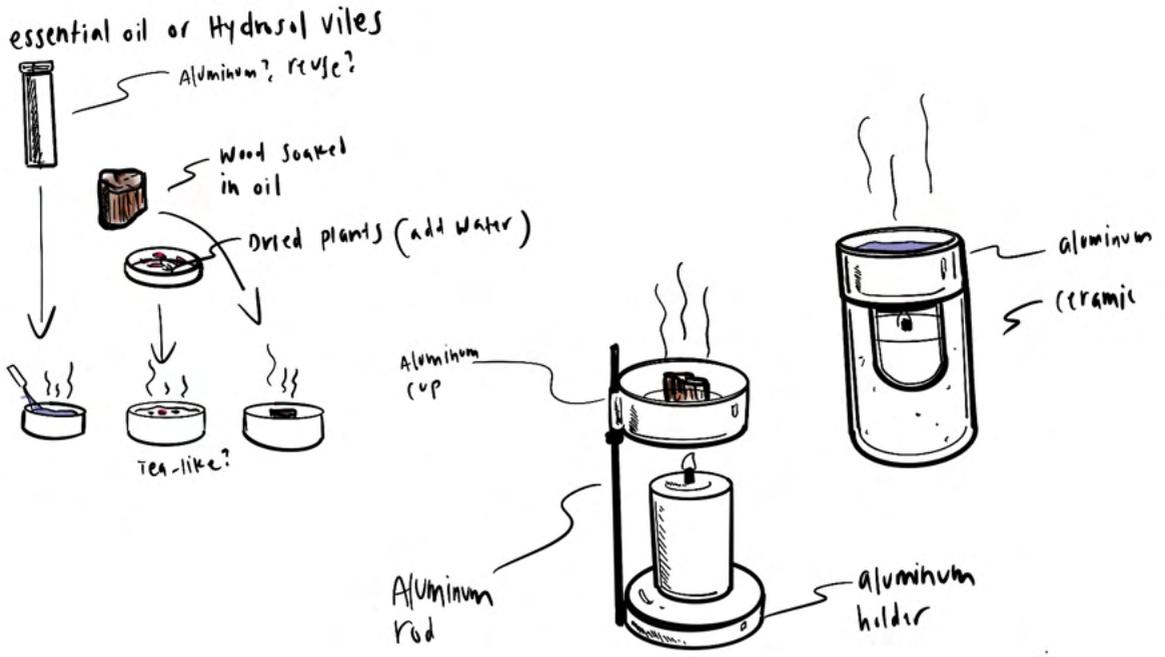
Ideas To Refine For More Refinement

Essential oil as an accessory

Stacking and Customizing Scents

Playing with Light

Essential oil as an accessory



Essential oil as an accessory

Materials



Packaging



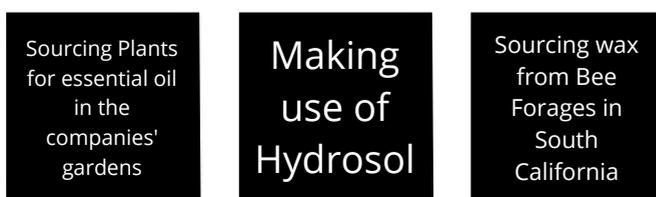
Retail System



Promoting Sustainability

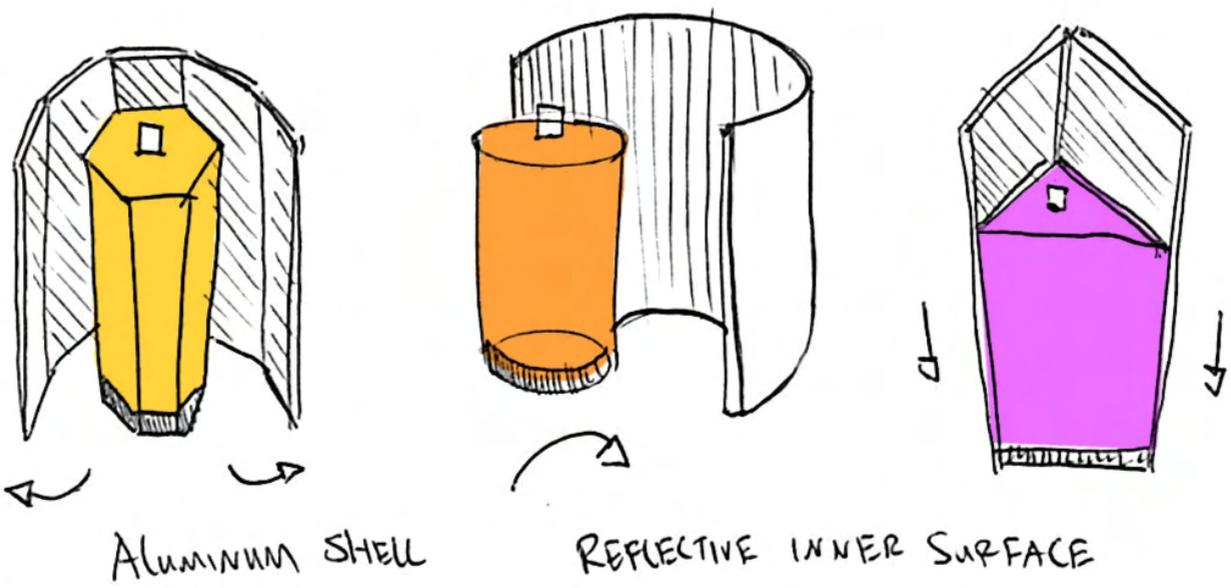
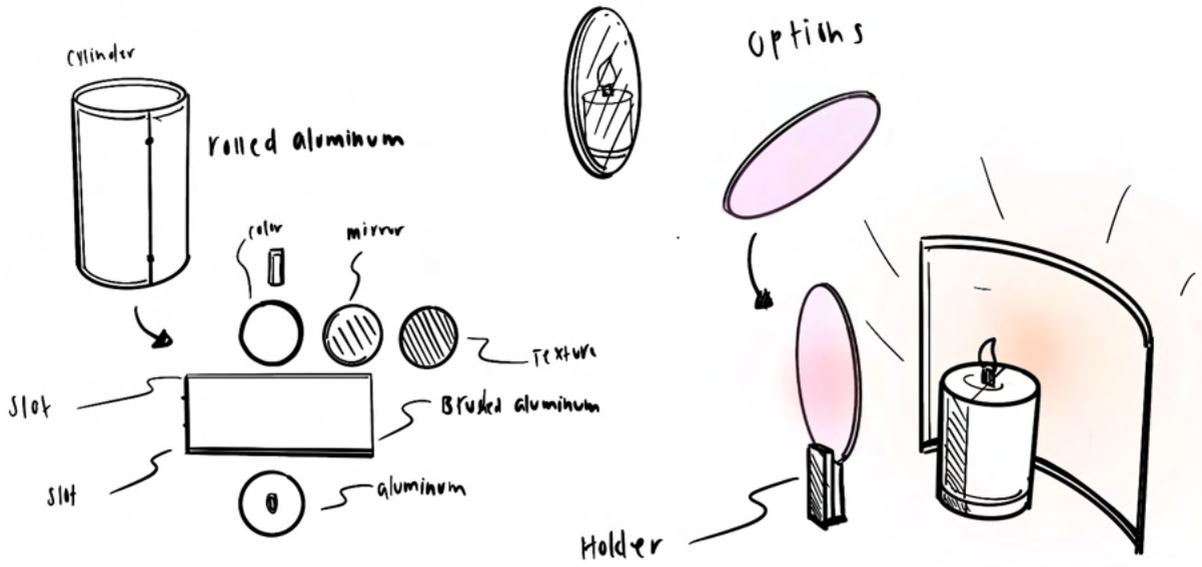


Transportation



Sarah Johannes

Playing With Light



Materials

Aluminum
for
accessories

Birch
Wood

Essential
Oil

Glass

Mirror

Packaging

Aluminum
sheet
packaging for
candle and
accessories

Use of Birch
Wood(Sustainably
grown) to create a
warm mood with
the packaging

Retail System

Candle and
oil sold
separately

Subscription
service?

Online
store
purchase

Customizing
essential oils

Consumers can
buy oils from
other brands or
use oils that they
already have at
home

Consumers
don't need to
buy scents if
they don't
want to

Promoting Sustainability

Showing
consumers that
sustainable
design does not
have to be ugly

Reusing
materials
and telling
consumers

Letting the
consumers know
that we are taking
back their waste
wax and giving
them new candles

Transportation

Sourcing Plants
for essential oil
in the
companies'
gardens

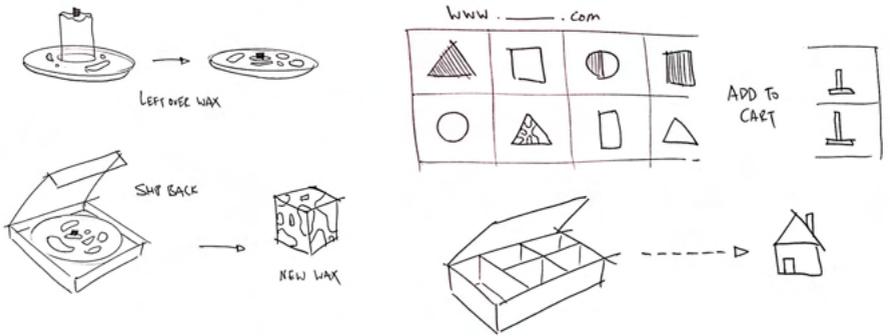
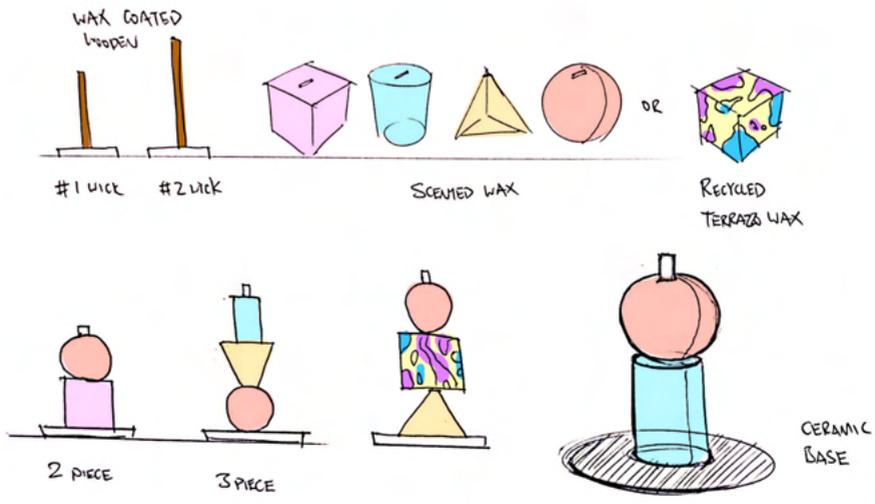
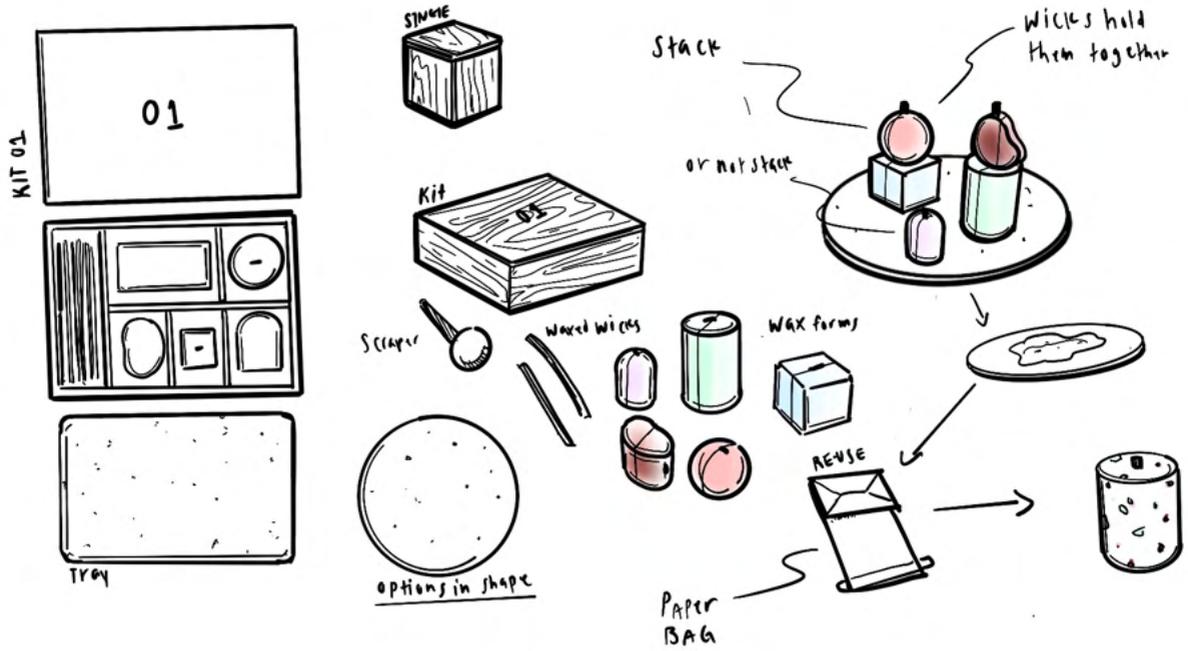
Sourcing wax
from Bee
Forages in
South
California

Coconuts Grown in
the Philippines are
not using pesticides
and practice better
sustainable
solutions

Coconuts
grown in
Florida use
Pesticides

Sourcing
Birch wood
from
Oregon

Stacking and Customizing Scents



Stacking and Customizing Scents

Materials

Aluminum for accessories	Birch Wood	Essential Oil	Recycled Ceramic	Making a new candle from the leftover wax of consumers
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Packaging

Aluminum sheet packaging for candle and accessories	Use of Birch Wood (Sustainably grown) to create a warm mood with the packaging
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Retail System

Candle and oil sold separately	Subscription service?	Online store purchase	Customizing essential oils	Consumers can buy oils from other brands or use oils that they already have at home	Consumers don't need to buy scents if they don't want to
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Promoting Sustainability

Showing consumers that sustainable design does not have to be ugly	Reusing materials and telling consumers	Letting the consumers know that we are taking back their waste wax and giving them new candles	Coconuts Grown in the Philippines are not using pesticides and practice better sustainable solutions	Coconuts grown in Florida use Pesticides
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Transportation

Sourcing Plants for essential oil in the companies' gardens	Sourcing wax from Bee Forages in South California	Sourcing Birch wood from Oregon	Coconuts Grown in the Philippines are not using pesticides and practice better sustainable solutions	Aluminum fabricated locally in Los Angeles	Aluminum sheet distributor locally sourced Los Angeles
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Concept Freeze

Stacking and Customizing Scents

Creating a brand and retail shop that
allows customer engagement

Week 11-12

Final Concept Development

Sarah

Brand Mood 1 Colorful but Desaturated



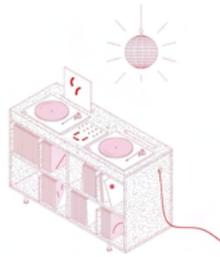
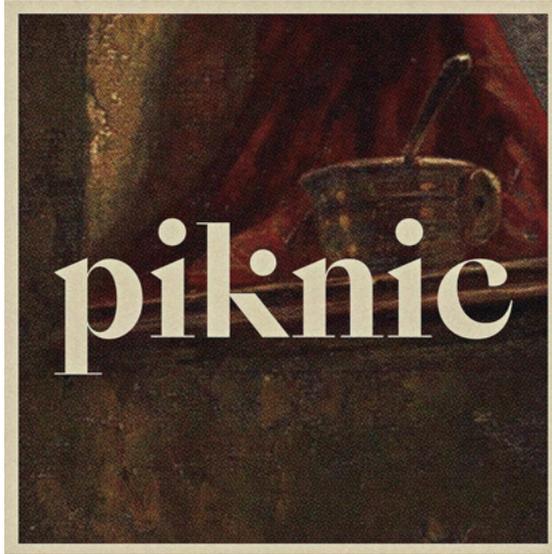
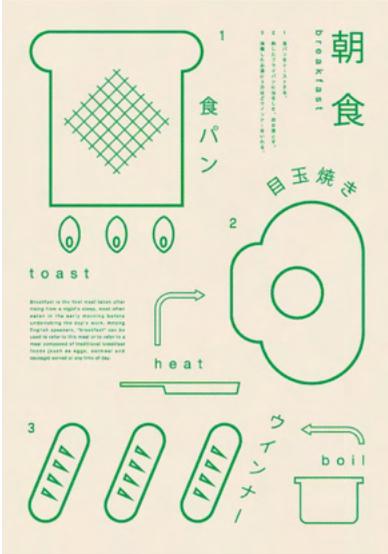
Sarah

Brand Mood 2: Warm and Timeless



Sarah

Graphical Inspiration



Sarah

Retail Store Inspiration: Lab/Gallery



Sarah Johannes
CMF Large Range of Colors



Brand Name Development

Working Words

Stack
Merge
Combine
Melt
Meld
Lab
Workshop
Craft
Mindful
Synergy
Amity
Assembly
Scent
Warmth
Glow
Me
Mine
Layer
Ritual
Blend
Special
Rare
Uncommon
Creation
Form
Work
Fair
Scent
Fragrance
Shift
Slow
Burn
Unwind
Sole
Everyday
Favorite
Like
Nice
Ripe
Drip
Poetry
Restore
Made
Meet
Flow

Pick
Together
Rely
Mingle
Heat
Compliment
Next
Easy
Thought
Care
Wax
Piece
Part
Return
Bring
Intro
Market
Better
Raw
Honest
Switch
Enhance
Choose
Sense
Frankly
Mellow
Bloom
Art
Camp
Felt
Cherish
All
Sole
Unit
Wake
Project
By
Sample
Palette
View
Cycle
Cafe
Relieve
Direction
Studio

Brand Names

Meld Lab

Melt

Meltingworks

Scentworks

Solemade

Waxworks

Better Made

Melt Craft

Slow Meld

Raremade

Melt Studio

Unwind Studio

MeltLab

FuseLab

PureScent

TrueScent

Wic Studio

AromaLab

AroLab

Aromix

Aromelt

Scentmade

Trueblend

Aro

Aura

Auralab

Aura Studio

Scentsphere

FumeLab

Melt Lab

Sarah

Brand Logo Development - Fonts

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Brand Logo Development - Fonts

Source Code Variable

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Bodoni

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Utopia

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Minion Variable Concept

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Ubuntu

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Brand Logo Development - Logotypes

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candles

MELT LAB Melt Lab melt lab meltLAB
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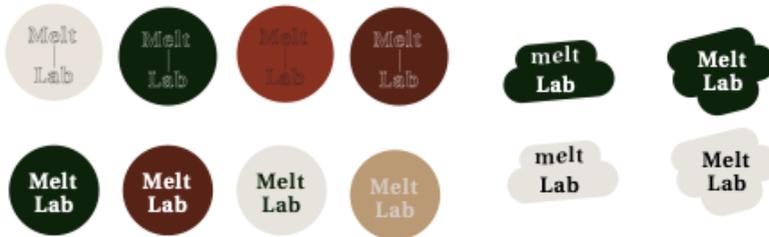
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Brand Logo Development - Logotypes with Color



Chose A Clean and Simple Direction

01



02



03



Our Story

Melt lab offers fragrance formulations dedicated to providing a mindful and personal experience to the home environment, exuding a harmony of scents and warm ambiance.

Investigating the candle industry through an ethical lens has allowed us to discover many opportunities for improvement. Melt lab adopts better methods in all steps of our process to minimize negative impacts.

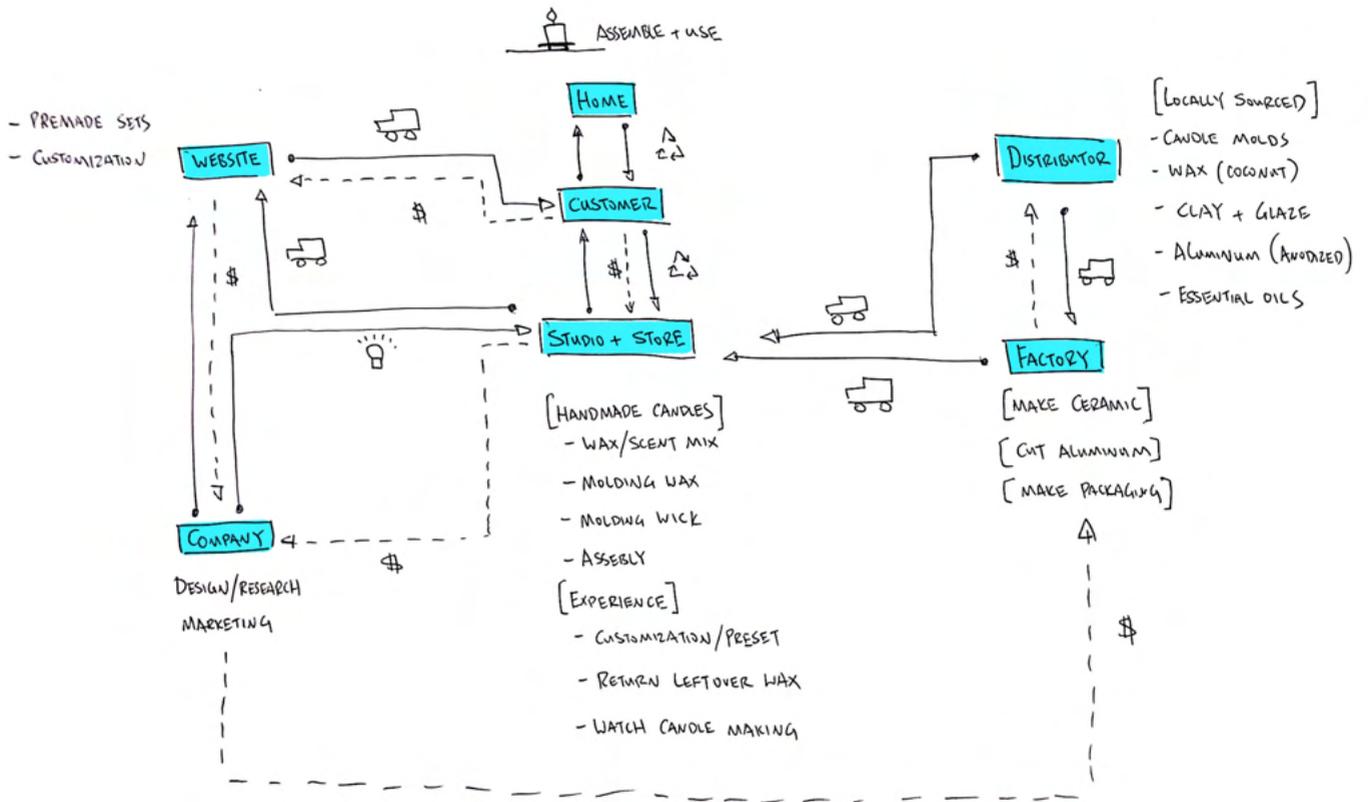
Through exploring how sustainable design can be comfortable, functional, and beautiful, we encourage our customers to practice a more conscientious lifestyle.

Melt Lab seeks to enhance moments of rest for those who enjoy the calming rituals of candles.

We aim to create a fun and engaging candle shopping experience that invites you to select from a range of forms and scents to craft your very own unique candle.

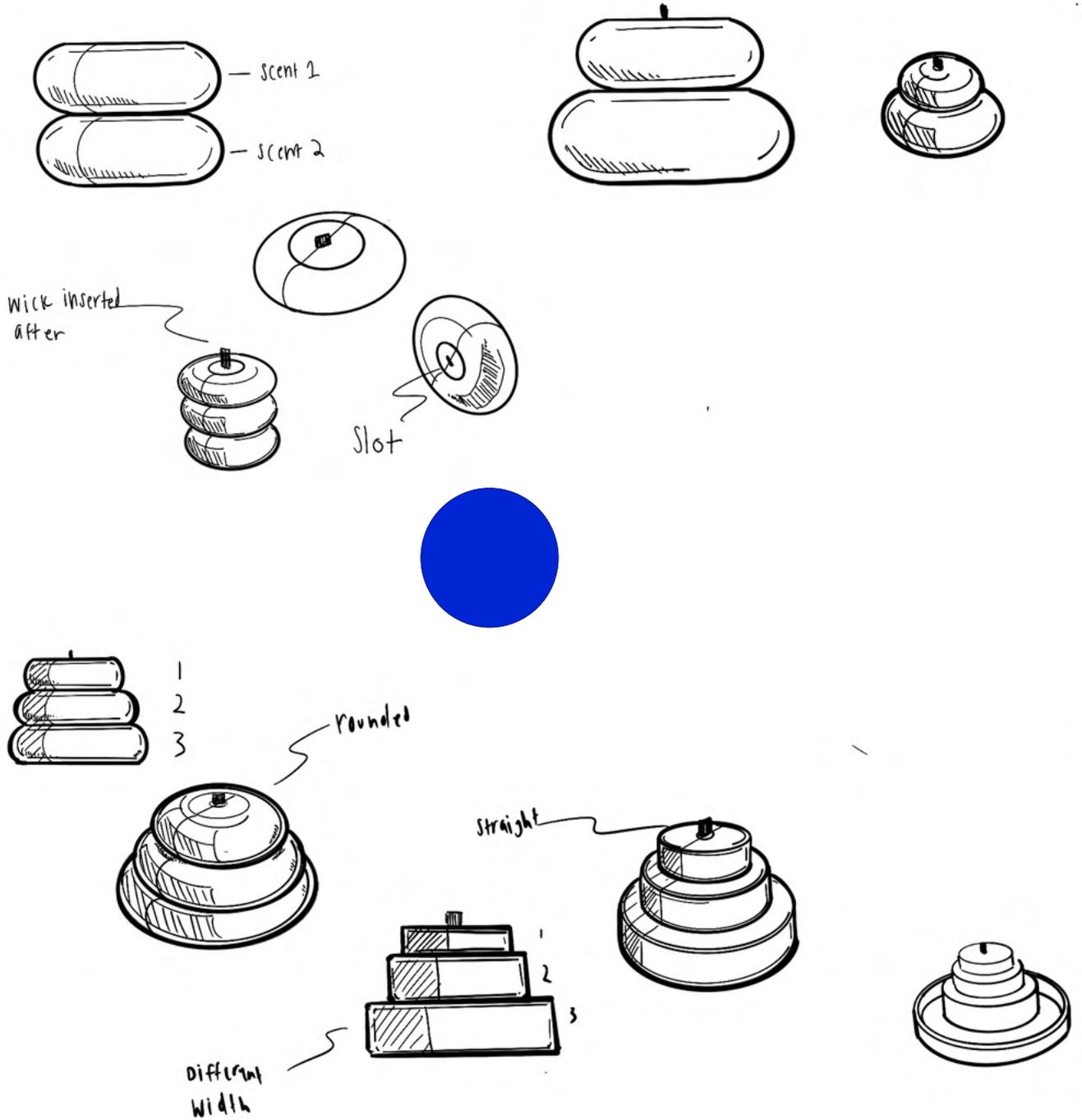
Johannes

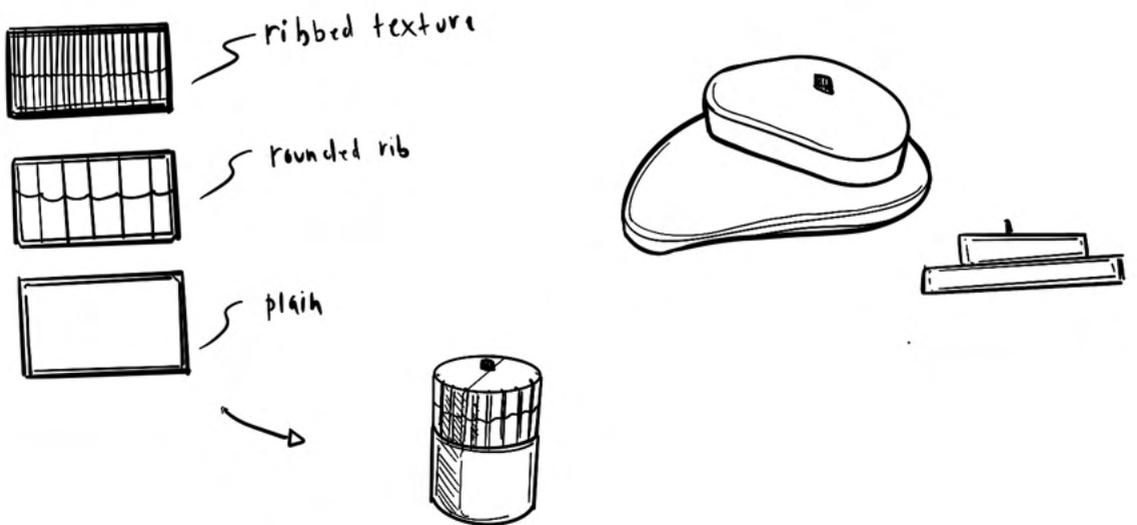
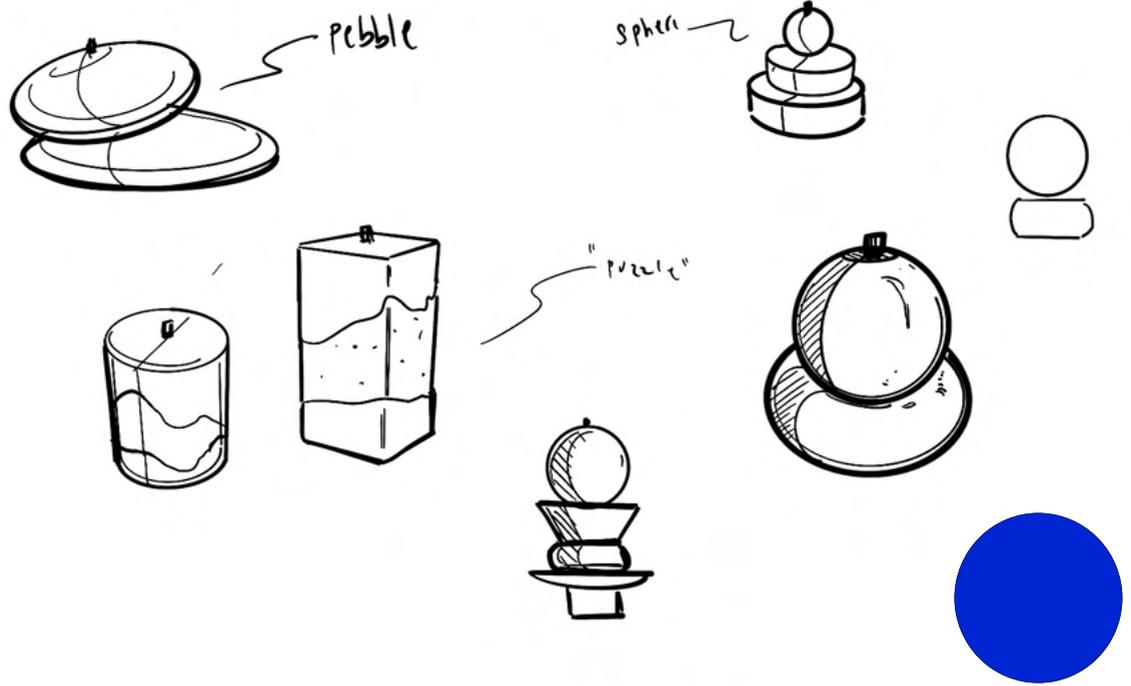
Brand Ecosystem Sketch Mock up



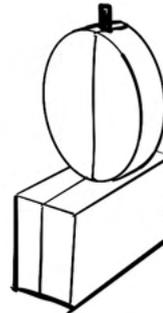
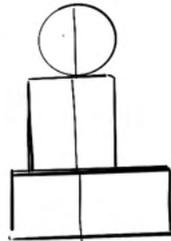
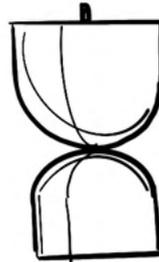
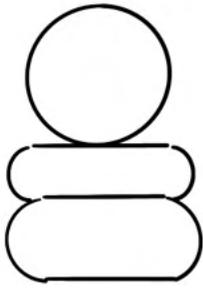
Sarah

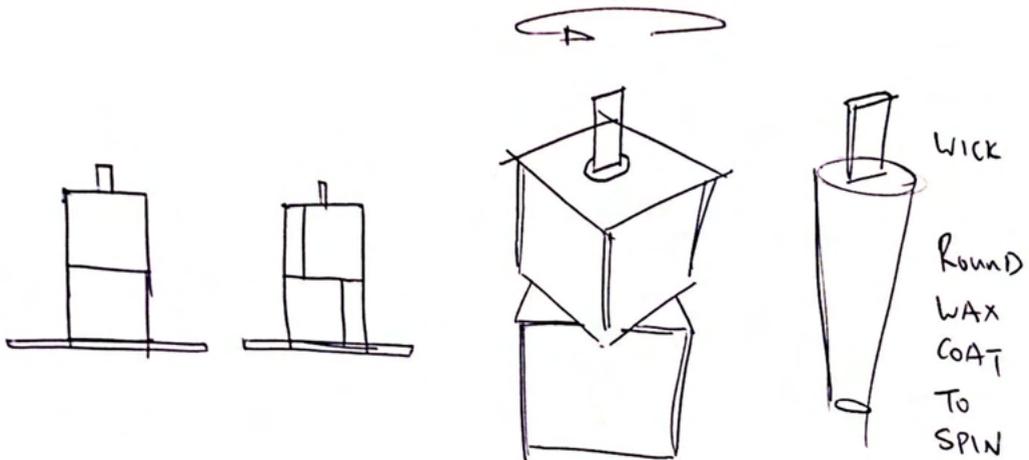
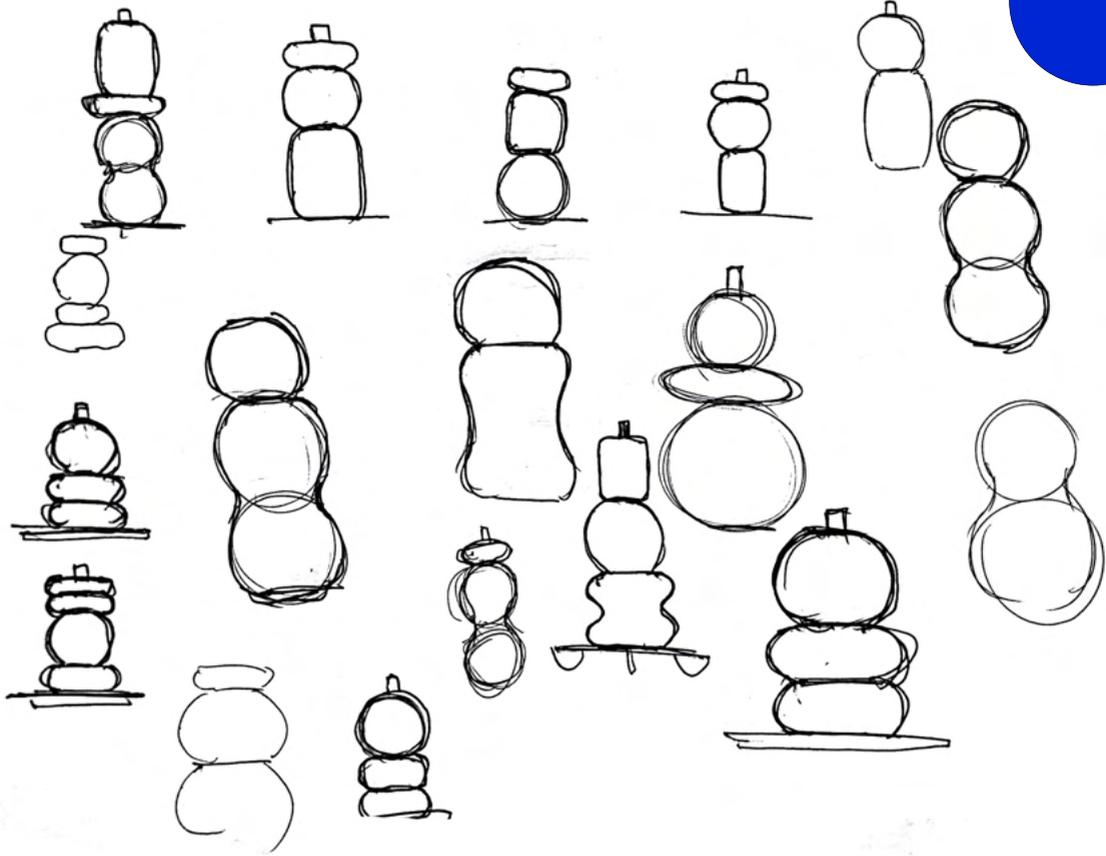
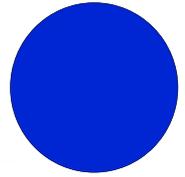
Wax Form Ideation

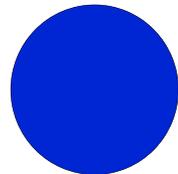
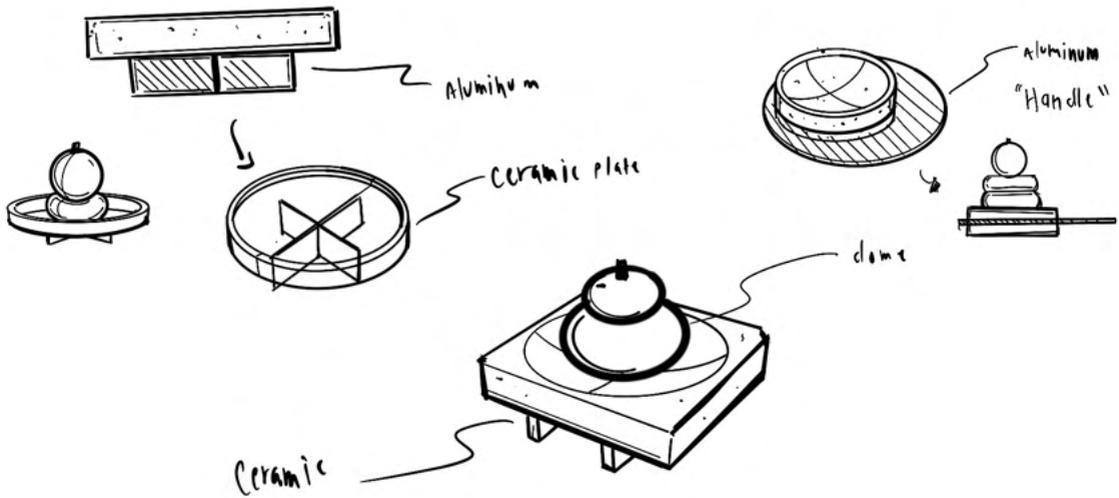
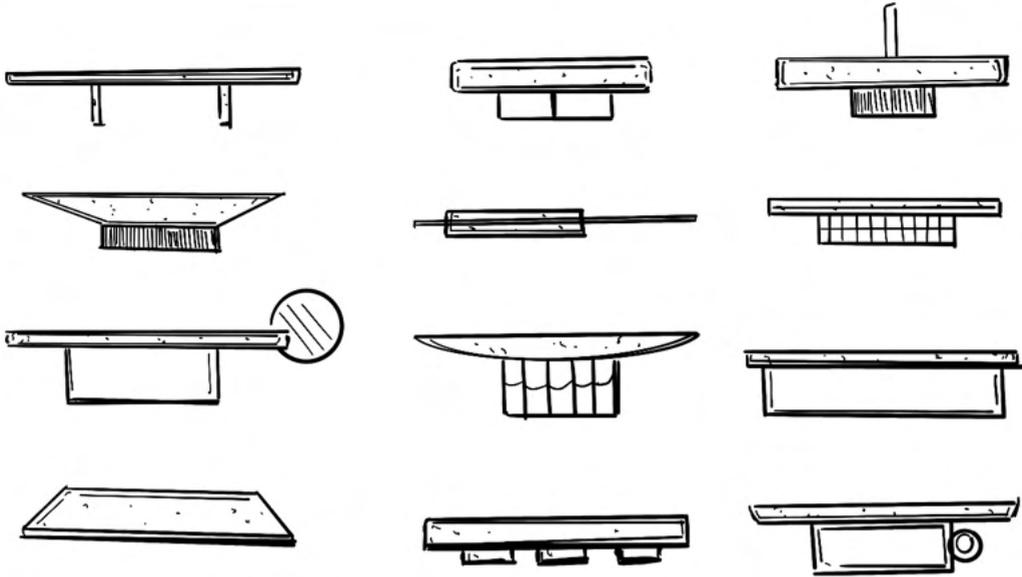


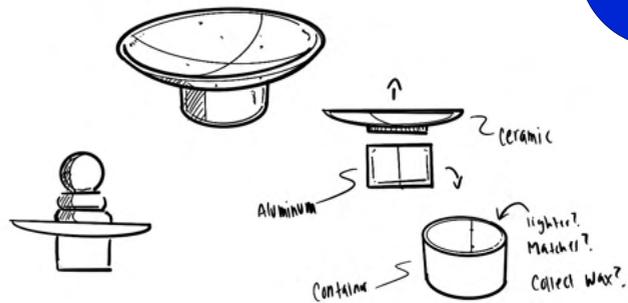
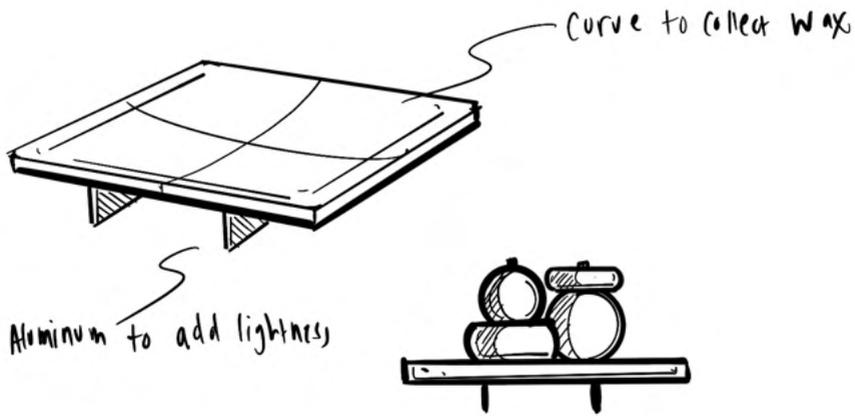
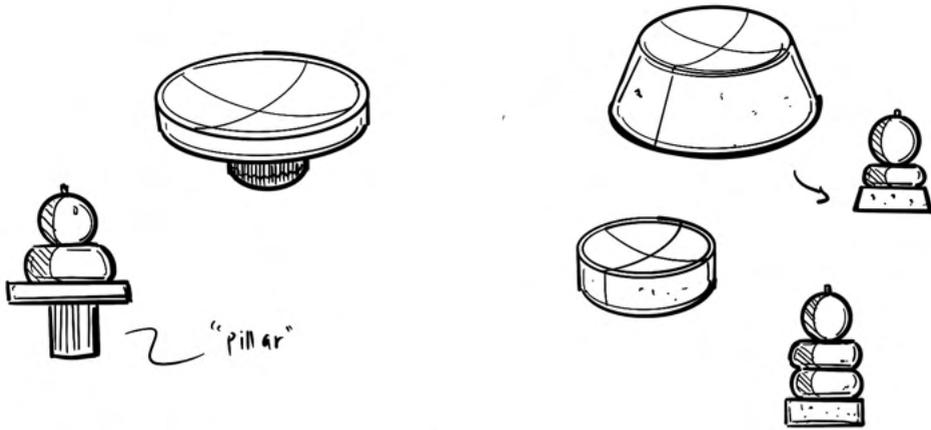


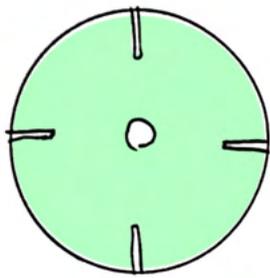
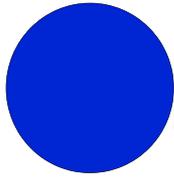
Wax Form Ideation

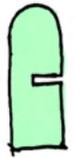


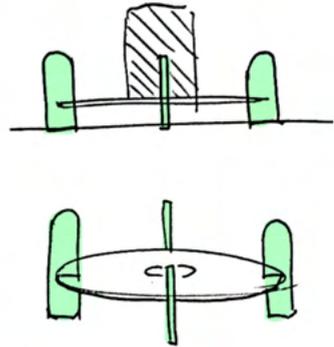




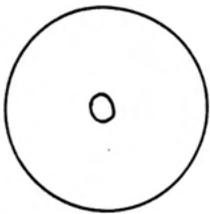


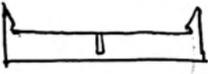


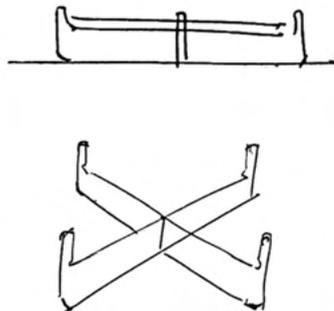
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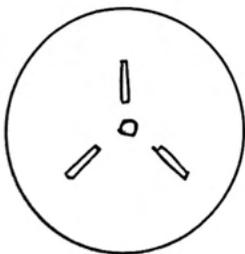
SLIDE INTO EACH OTHER



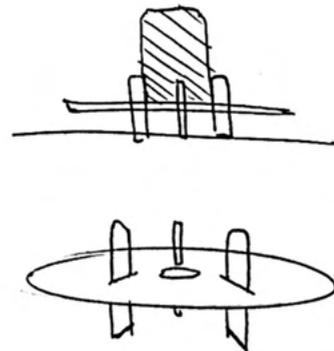
+  x 2 =



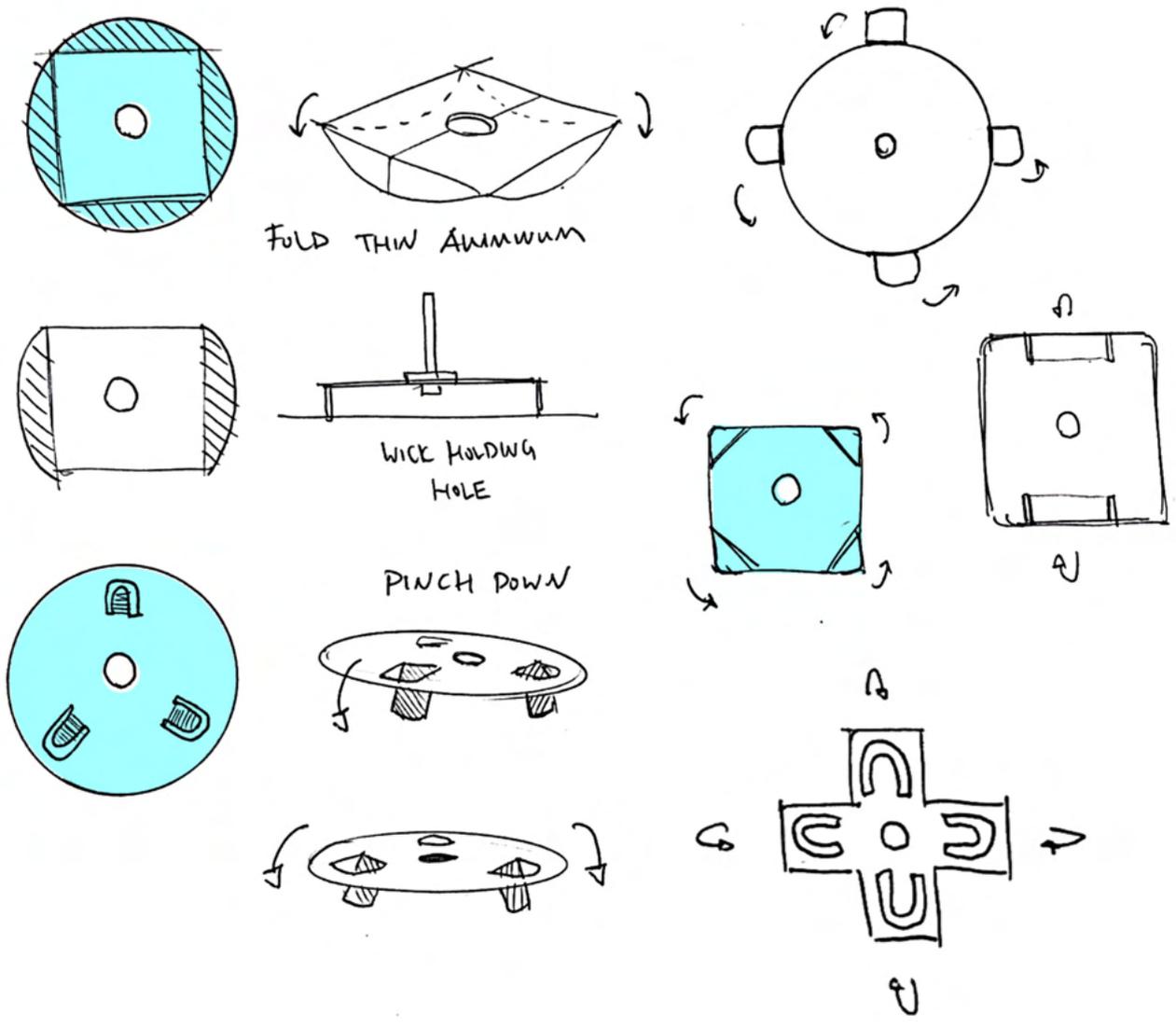
MINIMAL STORAGE SPACE



+  x 3 =

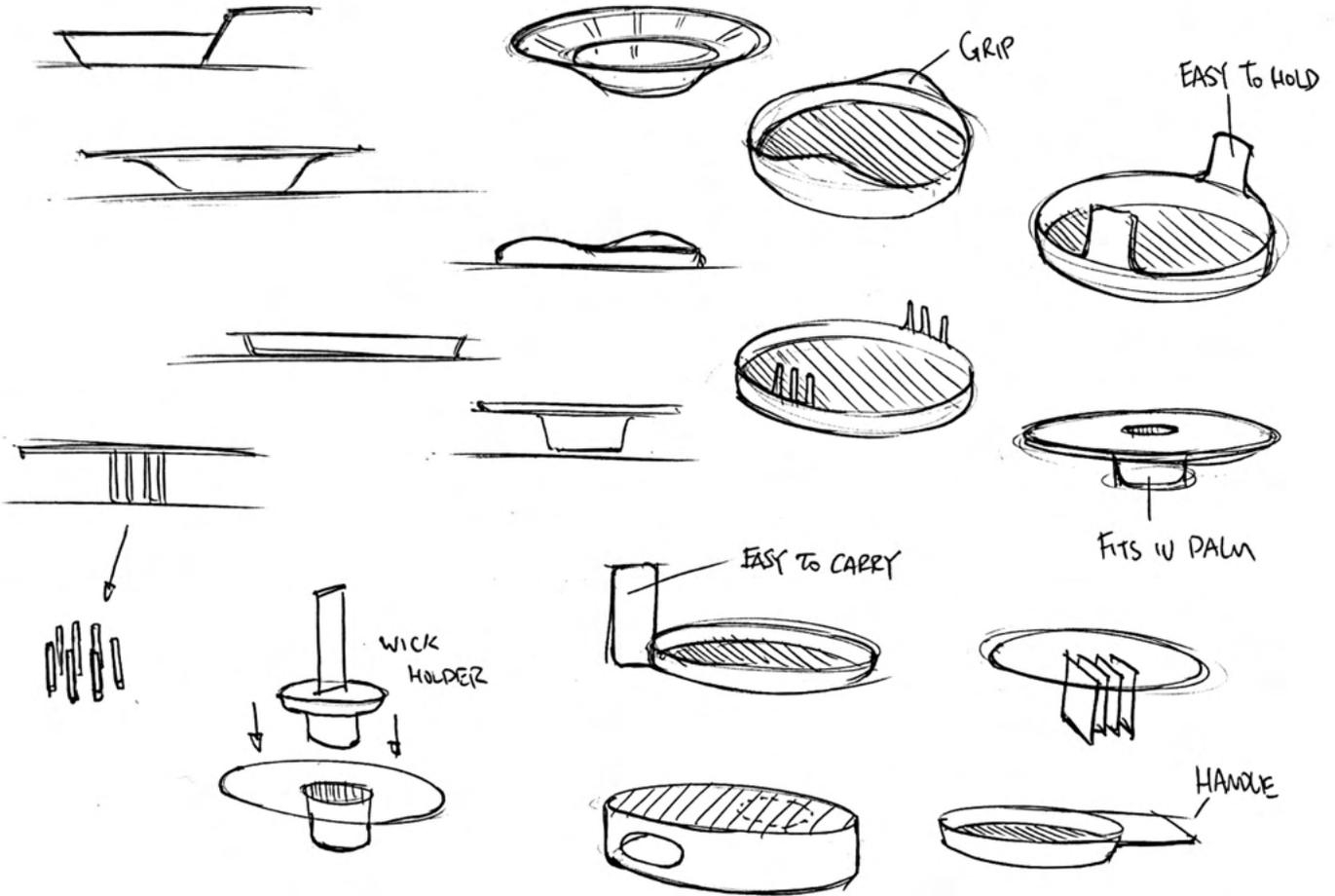


LAZER CUT ANODIZED ALUMINUM

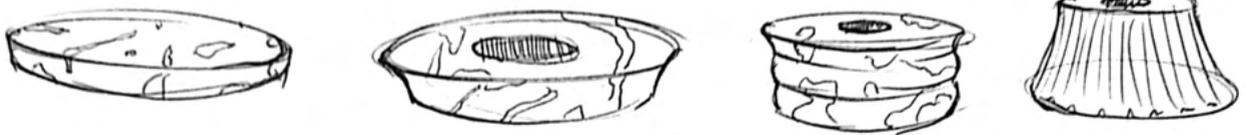


Johannes

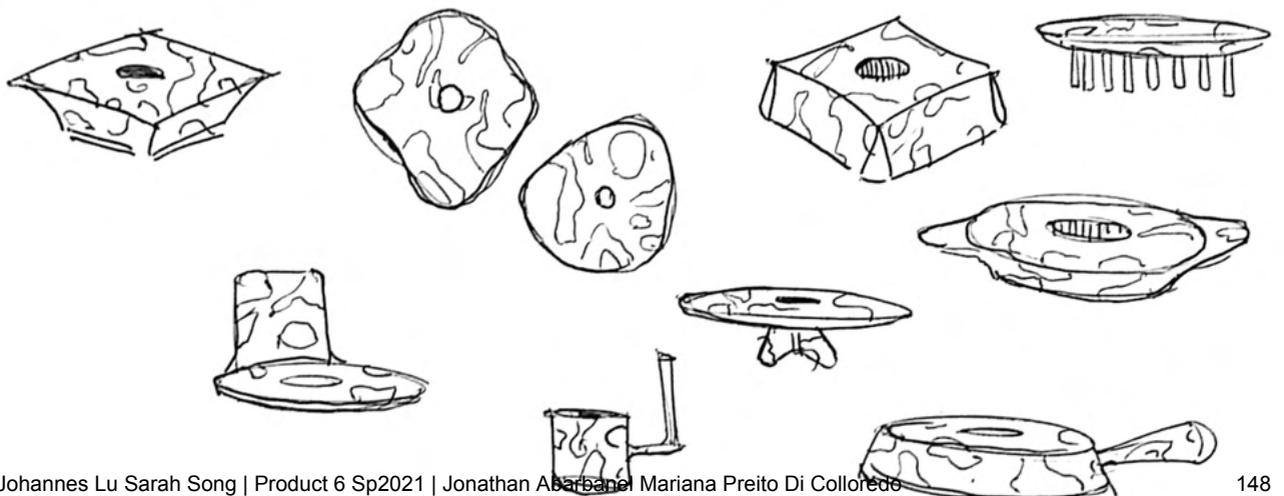
Base Form Ideation



SPUN



HAND CRAFTED



Wax Proportion Ideation



4"

5"

7.5"

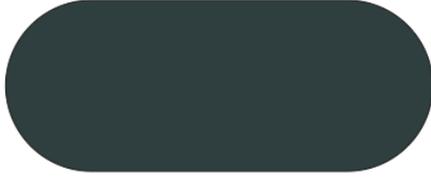
1"



1.5"



2"



5.5"



4"



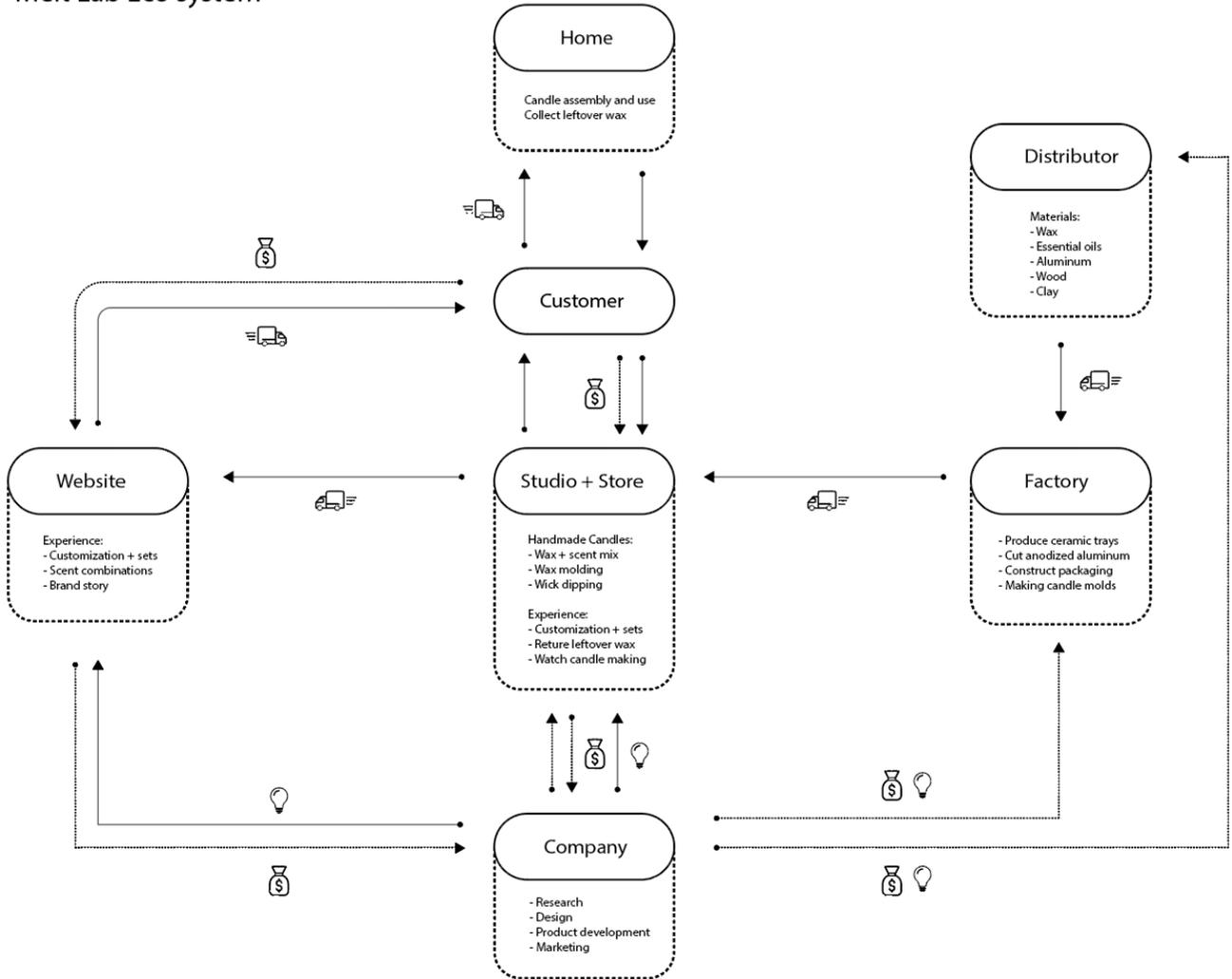
3"



2.5"



Melt Lab Eco system



Avoid:

01: **Sandalwood:** slow-growing tree native to India. the tree must be uprooted because the root is the part that's used. Around the world, multiple species of sandalwood are threatened by our demand, including the Hawaiian species *S. paniculatum* and the Australian *S. spicata*. In most places, the old-growth wood supply is not able to keep up with demand in a sustainable way.

02: **Spikenard:** It's very difficult to cultivate and therefore is typically wild-harvested. The part of the plant used for essential oils is its root, so when harvested, spikenard is not able to individually regenerate. This fact, combined with an increased demand for the plant, has contributed to its decline.

03: **Frankincense:** Boswellia genus ooze a special resin, which we call frankincense. The tree bark is damaged to encourage resin production, which is stressful for the plant. The tree doesn't need to be cut down but its greatest threat is people over-stressing trees until they weaken and die. Boswellia carterii is said to be the most-used species for essential oils

04: **White sage:** Commonly used in aromatherapy to the point of becoming endangered.

Sarah

Scent Selection and Coloring



Sarah

Scent Selection and Coloring

Scent Menu

01: Plain



01: DEC4B6

02: Lavender



02: 9C898D

03: Rose



03: F69C82

04: Wild Orange



04: C57036

05: Rosemary



05: 55593E

06: Lemon



06: D59C5C

07: Tonka Bean(Sweet like vanilla)



07: BBC0BD

08: Mexican Linaloe Wood(alt to rosewood)



08: 6F6056

09: Linaloe Berry : jasmine+Lemon scent (Floral)



09: 7F361E

10: Magnolia



10: B4937D

11: Peppermint



11: 343560

Set 01: Summer Day

Lemon

Linaloe Berry

Peppermint



Set 02: Flower Shop

Linaloe Berry

Rose

Magnolia



Set 03: Afternoon Tea

Rose

Tonka Bean

Wild Orange



Set 04: Slow Down

Lavender

Linaloe Wood

Rosemary



MELT LAB
candles

SCENT MENU

plain the coconut wax + beeswax base of all our wax	20
lavender a calming sweet scent sourced from California	25
rose an elegant floral scent sourced from California	35
wild orange a warm citrus scent sourced from California	25
lemon a fresh citrus scent sourced from California	25
tonka bean a friendly vanilla alternative from Brazil	30
linaloe wood a ethical rosewood scent alternative from Mexico	30
linaloe berry a citrus floral scent sourced from Mexico	30
magnolia a soft floral scent sourced from California	35
peppermint a refreshing scent sourced from California	25
rosemary a woody scent sourced from California	25

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SET MENU

01 summer day lemon linaloe berry peppermint refreshing and energizing like a bright summer day	80
02 flower shop rose magnolia linaloe berry like a full bouquet from your local flower shop	100
03 afternoon tea tonka bean rose wild orange a sweet and perfect break like afternoon tea	90
04 slow down lavender linaloe wood rosemary a ritual to slow down and relax	80
05 breeze lemon wild orange rosemary like a fresh breeze from an open window	75

Premium Packaging Consideration

Engraved birch wood boxes

\$60-\$105

3 waxes



\$40-\$70

2 waxes



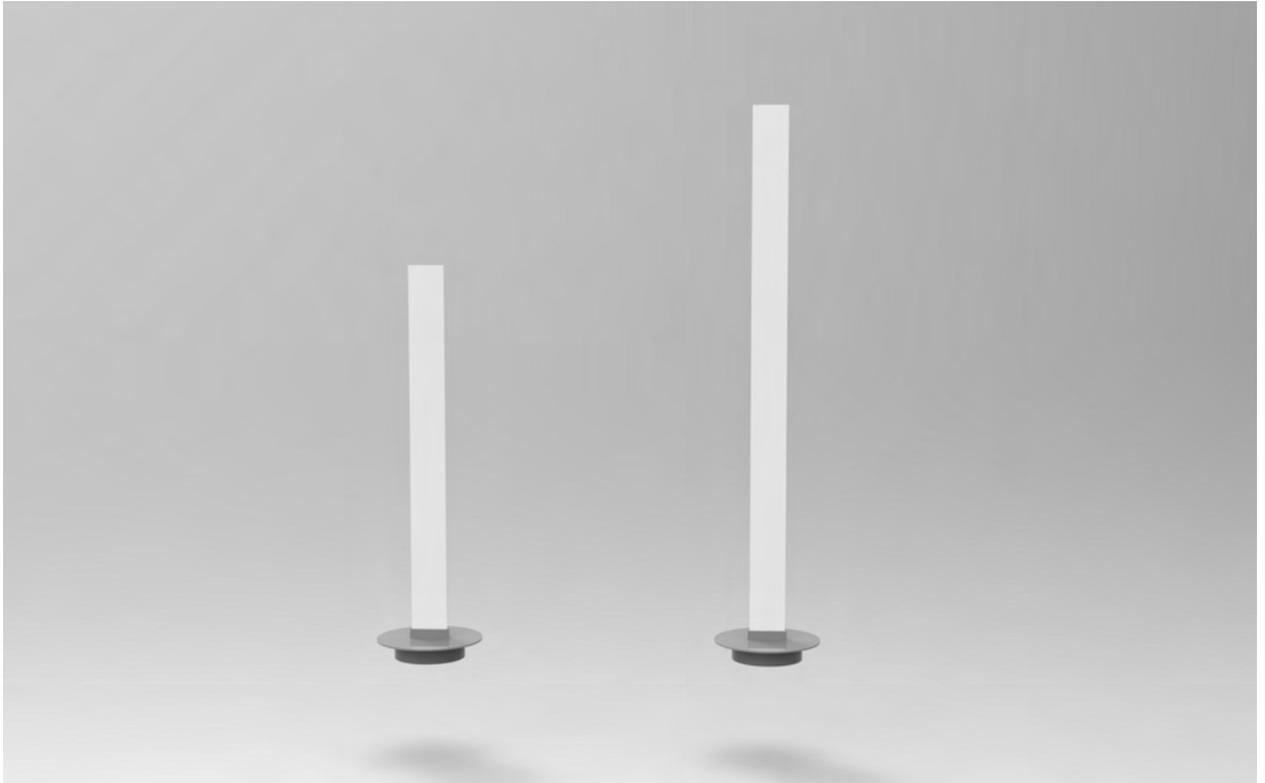
\$30-\$45

base



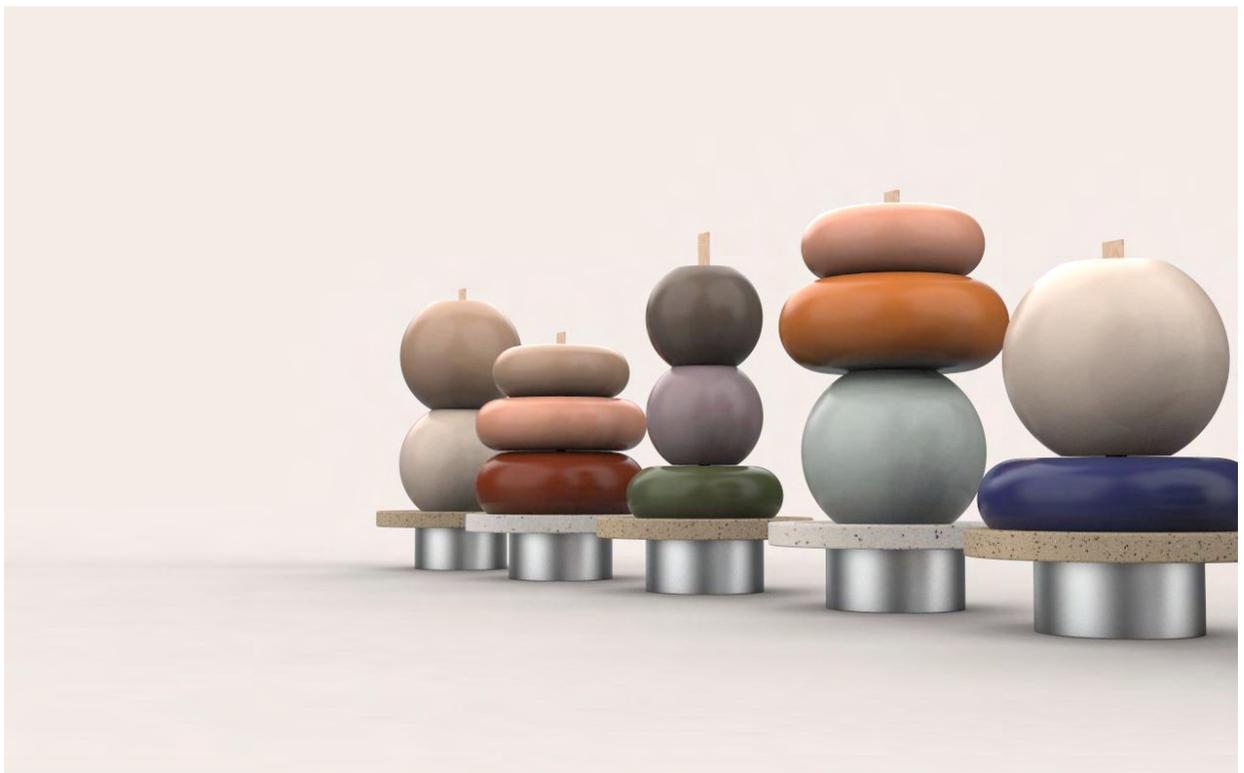
Johannes

Premium Packaging Consideration



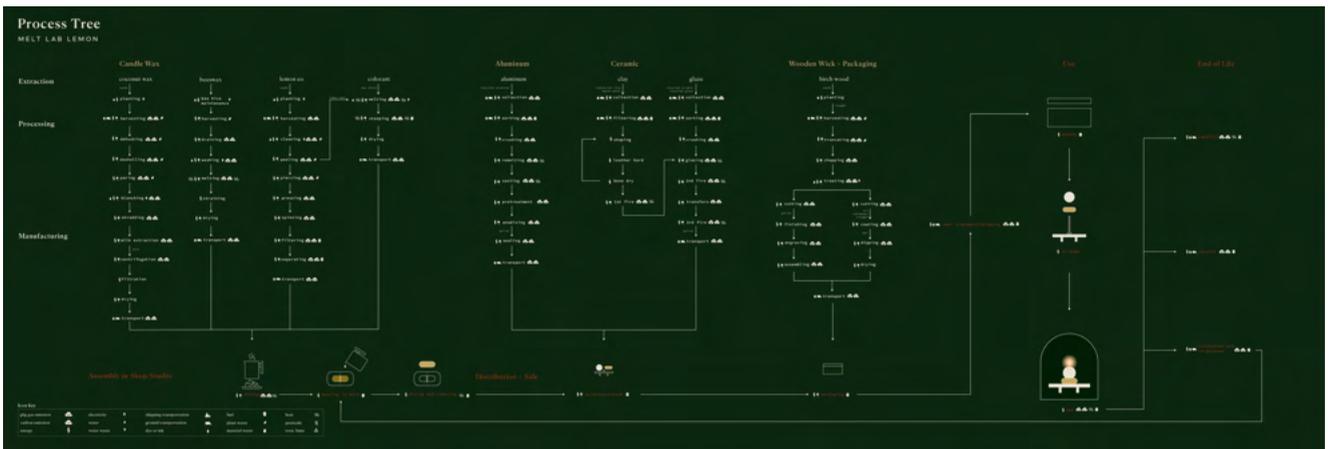
Johannes Sarah
CMF Applied





Sarah New LCA

More Details in Presentation Deck



Inventory matrix
MELT LAB LEMON

Process Name	Material	Energy Use	Water Quality
Raw Material Extraction
Material Processing
Component Manufacturing
Assembly and Packaging
Distribution and Sale
End-Use
End-Use
End-Use
End-Use
End-Use

Impact matrix
MELT LAB LEMON

Process Name	Global Warming Potential	Acid Equivalency Potential	Ozone Depletion Potential	Photochemical Oxidant Potential	Human Toxicity Potential	Marine Aquatic Toxicity Potential	Terrestrial Aquatic Toxicity Potential	Human Health	Quality of Life	Planet Health
Raw Material Extraction
Material Processing
Component Manufacturing
Assembly and Packaging
Distribution and Sale
End-Use
End-Use
End-Use
End-Use
End-Use

Impact matrix
MELT LAB LEMON

Process Name	Global Warming Potential	Acid Equivalency Potential	Ozone Depletion Potential	Photochemical Oxidant Potential	Human Toxicity Potential	Marine Aquatic Toxicity Potential	Terrestrial Aquatic Toxicity Potential	Human Health	Quality of Life	Planet Health
Raw Material Extraction
Material Processing
Component Manufacturing
Assembly and Packaging
Distribution and Sale
End-Use
End-Use
End-Use
End-Use
End-Use

New Okala Impact Score

Okala Impact Assessment Form

Johannes Lu, Sarah Song

Product: Mia's Co Grapefruit Scented Candle

Bill of Materials	Amount	Unit	Okala Factor Point	Unit	Okala Impact Points
Wooden Wick	0.0001	cu.ft	5.2	cu.ft	0.0005
Aluminum Wick Holder	0.003	lb	13	/lb	0.039
Wax (Okala x2)	0.23	gal	0.99	/lb	0.46
Clay ceramic	0.8	lb	1.6	/lb	1.28
Wood Box	0.007	cu.ft	5.2	/cu.ft	0.036
Transportation Ocean	6.81	ton-mi	0.016	/ton-mi	0.109
Transportation Ground	1.14	ton-mi	0.32	/ton-mi	0.36
Aluminum Manuf.	0.003	lb	0.38	/lb	0.001
					= 2.3 Impact/lifetime

$$\frac{\text{Impacts/Product Lifetime}}{\text{Lifetime Hours}} = \frac{2.3/100}{100} = \boxed{0.0002 \text{ Impact/Hour}}$$

Old Impact per Hour: 0.0019

New Impact per Hour: 0.0002

89.5% Decrease

Your harmony of scents

MELT LAB

candles

