

# Life Without Plastic

## Process Book

### COLEMAN CIRCULAR

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# Brief Overview





## brand overview

Coleman Company, Inc., is a brand of outdoor recreation products, especially camping gear, owned by Newell Brands. Coleman Company's headquarters are in Chicago, and it has facilities in Wichita, Kansas and in Texas. There are approximately 3,690 employees.

## general history

W.C. Coleman could see the light for the darkness. The young salesman was taking a stroll after a hard day's work selling typewriters, and spotted a new type of lamplight in a drugstore window in Brockton, Alabama. This new light burned with a strong, steady white flame and was fueled by gasoline. The standard lamp of the era burned kerosene and produced a smoky, flickering, yellowish light. W.C. was stricken with very poor eyesight, and was very interested in this new, steady white light that enabled him to read even the smallest print in books and on medicine bottles. Coleman saw potential in the new light, and through his vision a new company was born that would put America's farms and ranches in a new light, and would eventually make his name synonymous with outdoor fun.



# products overview



## products given



**Coleman**  
1/2 gallon jug  
\$5 - \$12.5



**Coleman**  
1 gallon jug  
\$7.5 - \$19



**Coleman**  
2 gallon jug  
\$17.5 - \$19.99



**Coleman**  
5 gallon jug  
\$32.99 - \$34.89

# Trend Research



## bridging the urban-outdoor trend

The Outdoor Industry Association estimates that around 34% of outdoor consumers live in urbanized areas, and that ratio will continue to grow with ongoing urbanization trends.

Many urban-dwelling outdoor consumers weren't raised on traditional outdoor activities and don't define themselves as "outdoorsy."

## story and cause compete with performance and technology

Heritage, values, authenticity, and cause are increasingly important parts of the brand experience. Consumers are looking for outdoor gear that not only supports their active lifestyle, but allows them to express their beliefs and values through the brands they choose to wear, and to feel good about the consumption decisions they make.

## "recrafted" & "repurpose" is adding value to the original product

It is no longer a shame to repair or repurpose a product. It is considered an act of creativity and adding emotional attachment to the product. People are enjoying recraft vintage and longevity product that age gracefully.

## sharing economy, athleisure and product versatility

Sharing economy, rental business, thrift stores... Athleisure, "durable goods" and versatility trends are changing how and why consumers buy outdoor goods. It is considered to be a new way of sustainable lifestyle and responsible consumption.

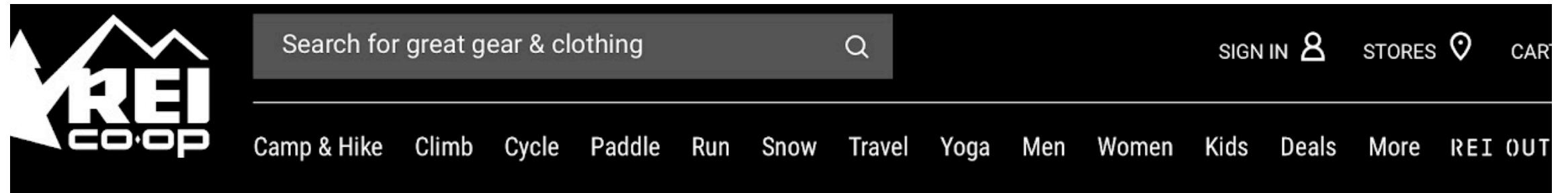


The North Face made \$2 billion in 2013, while Patagonia brought in a little over \$570 million. 2018 Ethical Fashion Report, The North Face's labour rating is 'it's a Start'.



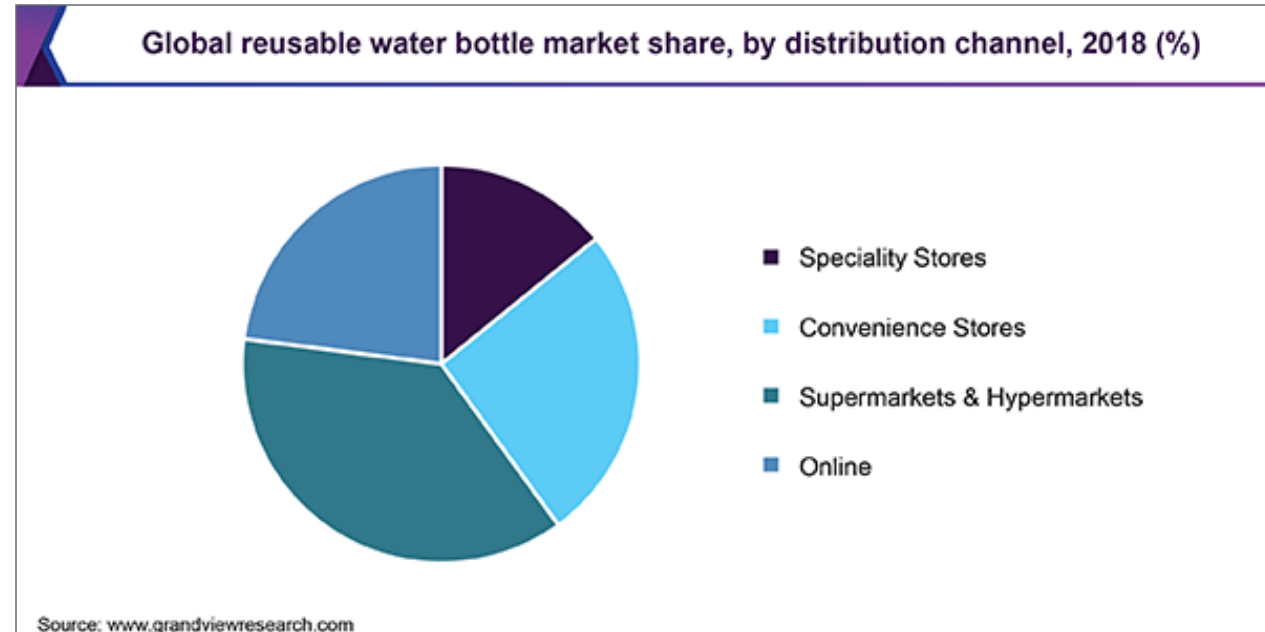
## cause-marketing and brand activation is new advertisement

Surrounding marketing provides a good case study of how willing consumers are to get on board with and support cause-related programs.

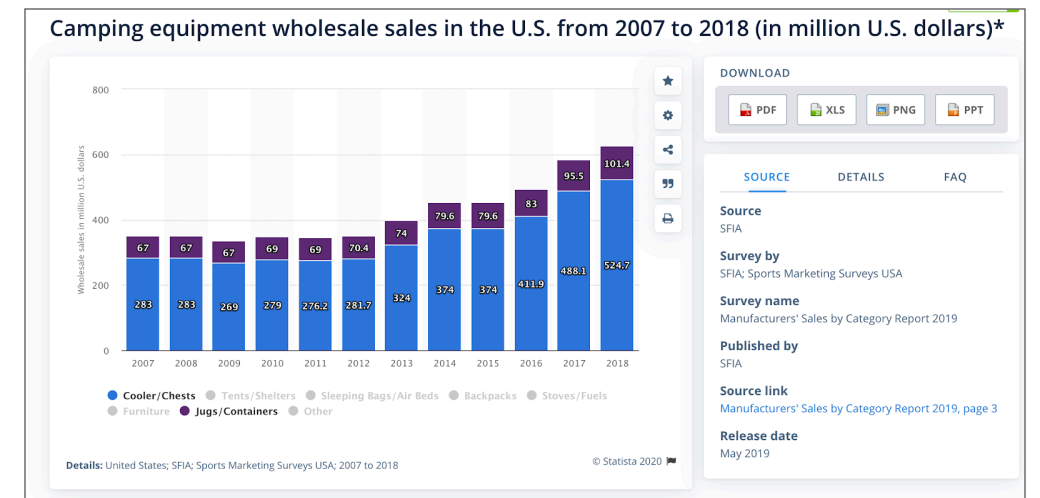
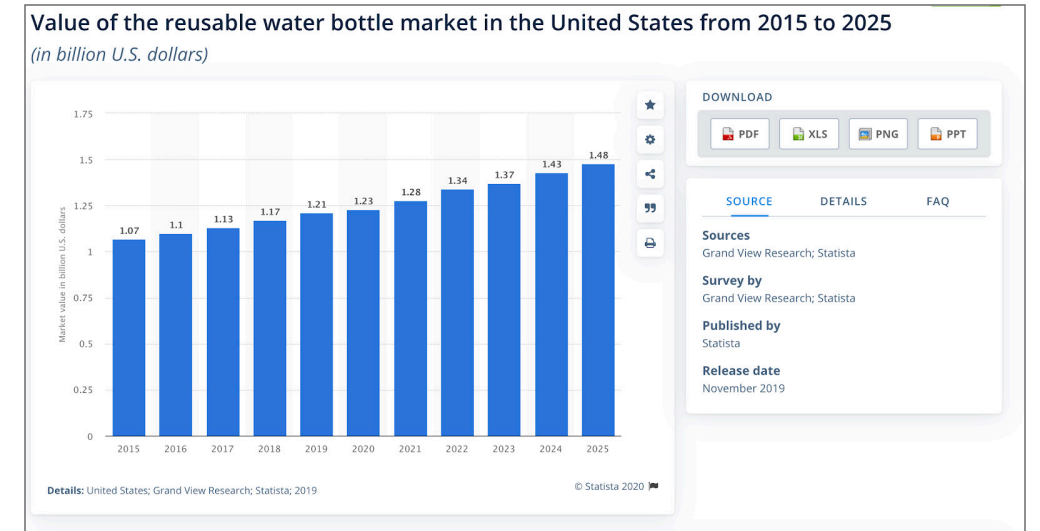


REI's Black Friday stunt  
#OptOutside

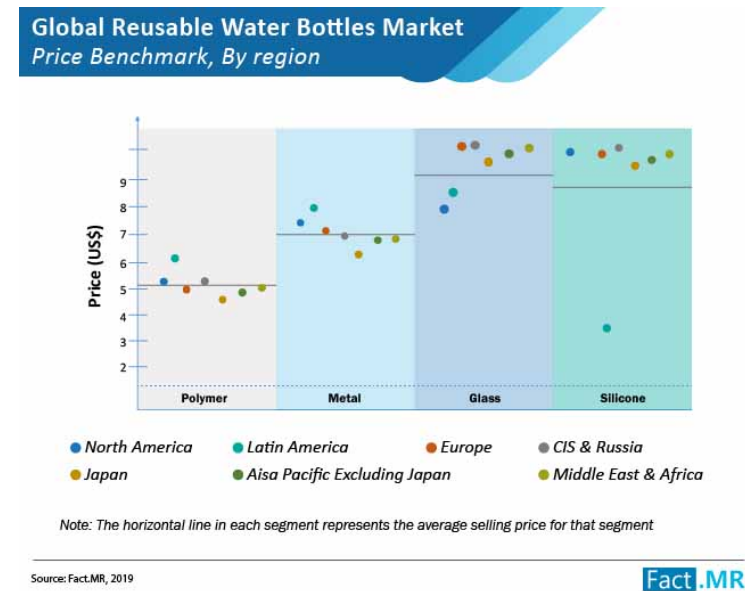
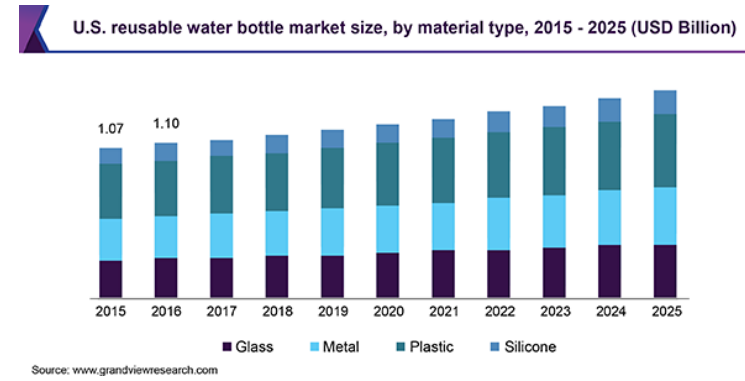
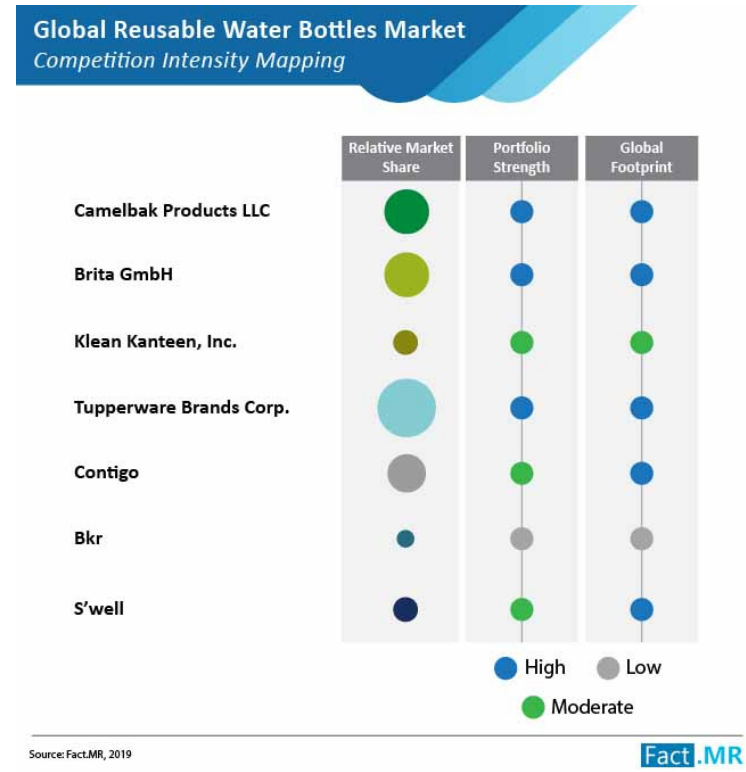
# macro trend



The global reusable water bottle market size was valued at USD 8.1 billion in 2018 and is expected to register a CAGR of 3.9% from 2019 to 2025. The growth of the market is attributed to an increase in demand for convenience products, rising threats to environment from non-decomposable waste bottles, and rising inclination of people towards a healthy lifestyle.



# macro trend



Asia Pacific was the largest regional market, accounting a share of more than 30.0% in 2018 owing to presence of a large population, extensive use of reusable water bottle, and low cost of manufacturing in countries like India and China. The growth is expected to remain significant in the coming years due to economic growth and increase in disposable income.

**Polymer-based Reusable Water Bottles to Create Opportunities for Market Players**  
 Polymer-based reusable water bottles are usually cheaper than those made from metal, glass, and silicone. These bottles are also easy to clean, available in wide variety of colors, and do not leave a metallic taste. These features make the polymer-based reusable water bottles the highest sold category. Based on primary usage, everyday reusable water bottles generate the highest revenue in the market. Among the sales channels of reusable water bottles, supermarkets and hypermarkets are the most lucrative for the players.

Besides environmental factors and per day cost cutting on purchasing bottled waters, buyers of reusable water bottles purchase these bottles due to additional features that are absent in bottled drinking water. Considering this factor, manufacturers of reusable water bottles are focusing on product development to include differentiated features to their existing portfolio as well as the launch of new reusable water bottles with added features. For instance, Pressa bottles offer a built-in juicer, that can be used to infuse flavors of fruits and berries, along with an added advantage of easy cleaning as it has a wide mouth.

In Feb 2019, Cove launched reusable water bottle made entirely from biodegradable material. This reusable water bottle looks and feels like regular plastic but decomposes without harming the ecosystem. Few companies such as Nalge Nunc International Corp., Newell Brands, etc.

# User Research



## current user



Construction Workers  
Farmers



Sports Related Consumer



Outdoor People



Lifestyle/ Gathering events

# online reviews

# coleman website

76 reviews, people>35 yr 56 reviews assume family / elder people

Versatile (college, work, sports, camping, fishing) and durable

## 1 GALLON BEVERAGE COOLER

Item# 3000000731

★★★★★ 4.6 (76) [Write a review](#)

### Rating Snapshot

Select a row below to filter reviews.

<b>good</b>	5 ★ 	60
"Resistant"	4 ★ 	10
"Versatile & Efficient"	3 ★ 	3
"companion"	2 ★ 	1
<b>bad</b>	1 ★ 	2
"Leaks"		

Wife of iced tea drinker

Review 1

Votes 0

Age 25 to 34

Gender Female


★★★★★ · 9 months ago


### Needs a seal

Leaks really bad when tipped for drinking or pouring. Wish it had a seal.

I use this product when I'm Other

No, I do not recommend this product.

Quality 

Value 

Durability 



zbluesun

Chicago, IL

Review 1

Votes 2

Age 45 to 54

Gender Female

★★★★★ · 5 months ago

### Racoon and Mud Resistant

As lifelong tent campers, we knew better than to leave food or drinks in the tent, but my sister forgot about 1 random candy bar. We took a hike and came back to find racoons had unzipped the tent and her duffle and run off with the snack. They also took our Coleman 1 gallon beverage cooler out for a spin, but were unable to open it. Our drink cooler was covered in muddy racoon paw prints, but still sealed and delightfully ice cold!

I use this product when I'm Camping

Yes, I recommend this product.

Quality 

Value 

Durability 



LBtross

Stillwater, MN

Review 1

Vote 1

Age 45 to 54

Gender Male

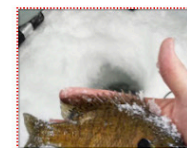
★★★★★ · 5 months ago

### Best bait container on Earth!

These work great for keeping your minnows warm while ice fishing.

I use this product when I'm Other

Yes, I recommend this product.



Quality 

Value 

Durability 

Helpful?  · 1  · 0

# online reviews

# amazon

age varies

- Construction site (adult)
- Gym (Adult)
- Football Training(teenager)

## good

- "Good size"
- "Easy to clean"
- "Keep cooling"
- "sturdy"

## bad

- "Leaks"
- "doesn't seal well"

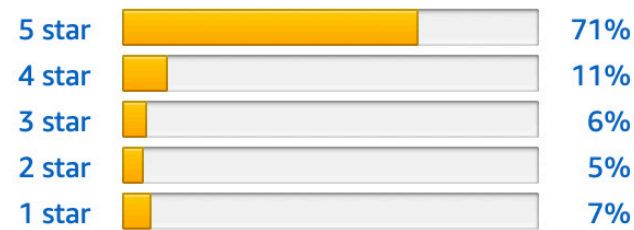
## Coleman 1-Gallon Jug

by Coleman

★★★★☆ 1,388 ratings | 81 answered questions

Amazon's Choice for "coleman 1 gallon water jug"

1,388 customer ratings



### By feature

Sturdiness	★★★★☆ 4.4
Value for money	★★★★☆ 4.3



Amzon

★★★★★ Construction worker hubby loves this water jugs!

Reviewed in the United States on August 25, 2016

Color: Red | Verified Purchase

My husband loves this jug for work. He works in construction and we've had to replace the jug several times over the years but we keep coming back to Coleman jugs.

He fills this jug up with ice and water and it sits outside all day. On the very hottest days (90 and up) after 8 hours the water is cool but no ice is left. If left in the shade or on a day less than 90 degrees, there will be ice left at the end of the day and the water will be very cold. He is very happy with this jug and as long as the lid is on tight it doesn't leak if it's accidentally knocked over.



April

★★★★★ Keeps cold extremely well

Reviewed in the United States on September 7, 2018

Color: Blue | Verified Purchase

As a roof worker, cold water is very important to me in the summer.

If you want cold water too, this is the cooler you want.

I fill it just over half way full with ice in the morning and in the evening, after a hellishly hot day on the roof, ice will still be in it. Sometimes it's too cold.



Dick C.

★★★★☆ Good water jug, but the lid doesn't seal well

Reviewed in the United States on November 9, 2017

Color: Blue | Verified Purchase

It's a good water jug for tennis, and the gallon size insures adequate hydration for long matches.

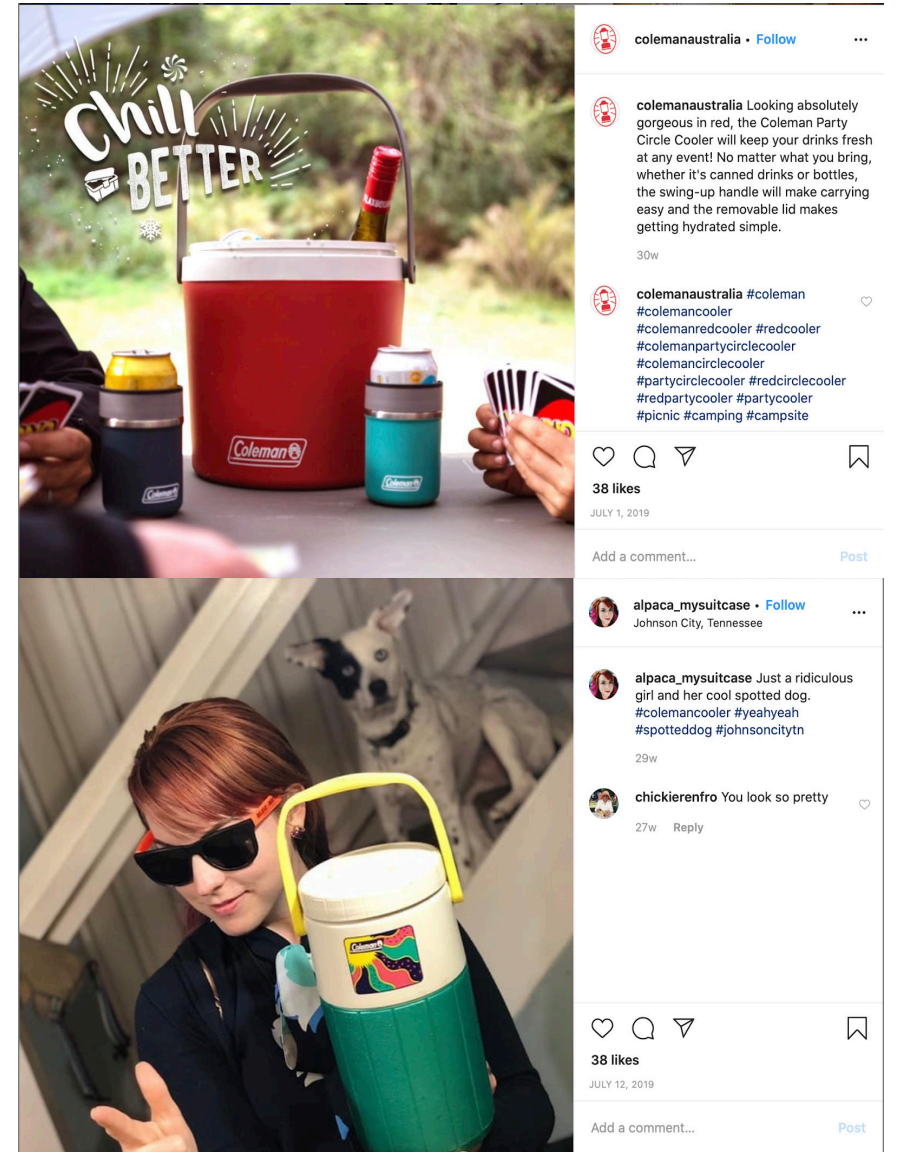
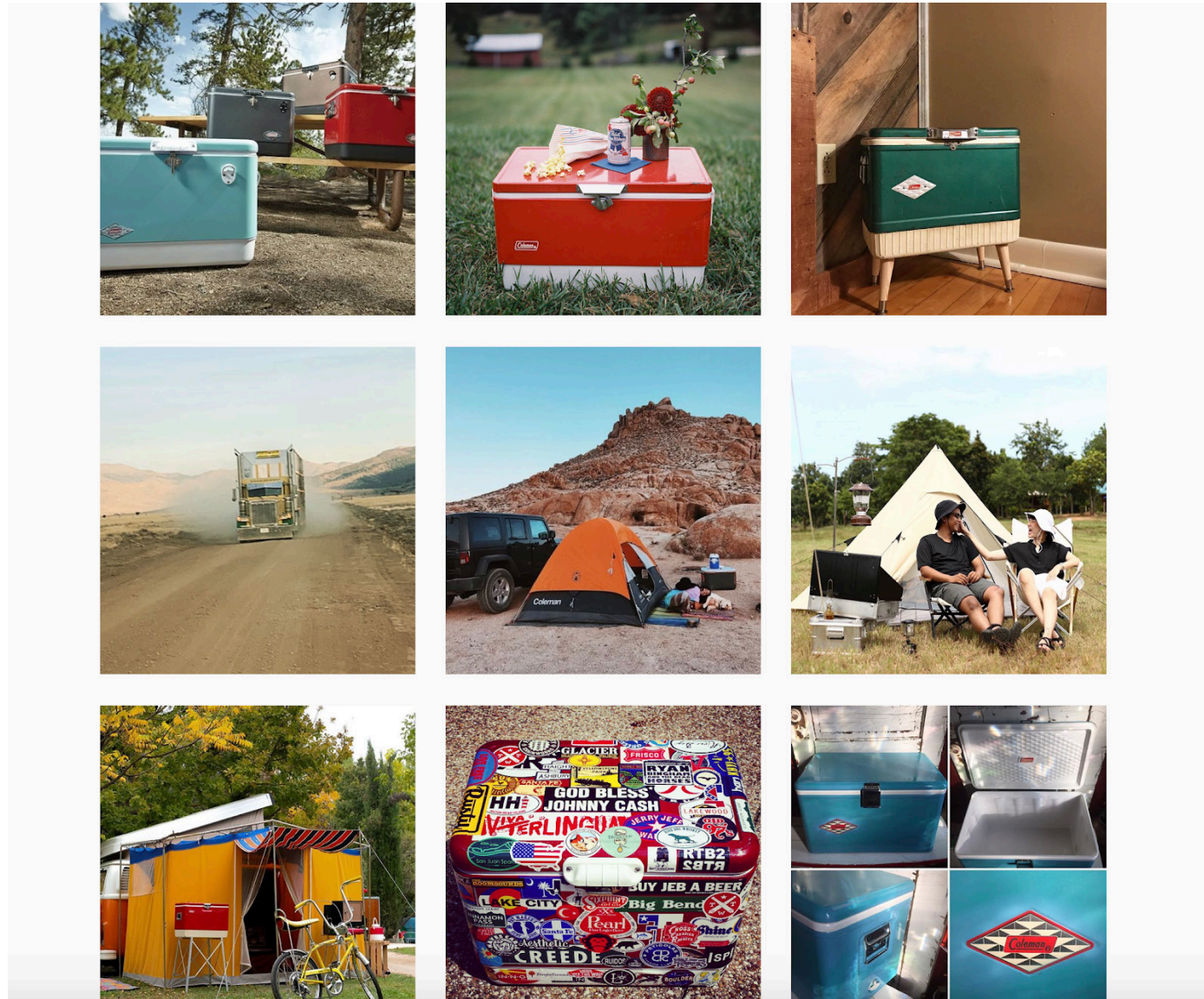
Only problem I have is that the lid does not seal easily, or well, and it frequently leaks around the lid during transport in my car trunk.

# blogs / influencers

instagram  
age:15-35

Outdoor Party  
Camping  
Lifestyle  
Friend/Family gathering

Decal / handpaint  
Vintage / metal cooler  
Price range:21-30 dollars  
Customize /DIY  
Loves the marks of "age"



colemanaustralia • Follow ...

colemanaustralia Looking absolutely gorgeous in red, the Coleman Party Circle Cooler will keep your drinks fresh at any event! No matter what you bring, whether it's canned drinks or bottles, the swing-up handle will make carrying easy and the removable lid makes getting hydrated simple.

30w

colemanaustralia #colemancooler #colemancirclecooler #redcooler #colemancirclecooler #partycirclecooler #redpartycooler #partycooler #picnic #camping #campsite

38 likes  
JULY 1, 2019

Add a comment... Post

alpaca\_mysuitcase • Follow ...  
Johnson City, Tennessee

alpaca\_mysuitcase Just a ridiculous girl and her cool spotted dog. #colemancooler #yeahyeah #spotteddog #johnsoncitytn

29w

chickierenfro You look so pretty

27w Reply

38 likes  
JULY 12, 2019

Add a comment... Post



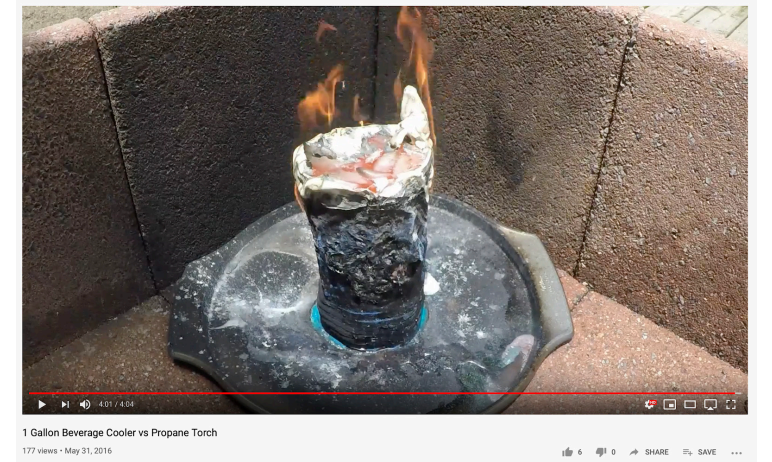
# youtube



Easy to fill with ice  
Secure screw-top lid



Midwest Farmer: Wish the lid had a cover so it doesn't filled with dirt when drinking



Put ice and use propane torch burning for 2min, impressed by result

**Outdoor  
Millennials**

**Born 1981~1996**

In 5 years



**Outdoor  
Gen Z**

**Born 1995~2015**

By 2025, Millennials will account for over 75% of the working population.

**The future audiences are more accustomed to the experience economy, willing to meet other fans of the brand and share the experience in socialization.**

**Instagrammers and YouTube influencers are amassing thousands of dedicated followers with honest, authentic and transparent content.**

**Outdoor new gen not only pursuit technology and functionality, but more important express their beliefs and values through the brands.**

**They are especially emotionally attracted to products that aged beautifully.**

**A media to carry beautiful memories.**

## stay hydrated is new health code

Studies show that drinking water helps to expand the gray matter in our brains, and can increase our productivity by upwards of 14%.

## choose bottled water over beverages

Because Zs grew up during the crackdown on jumbo-sized soft drinks and high fructose corn syrup, they're more inclined to choose bottled water over soda, which one-quarter of Zs in the U.S. think "is as bad as cigarettes."

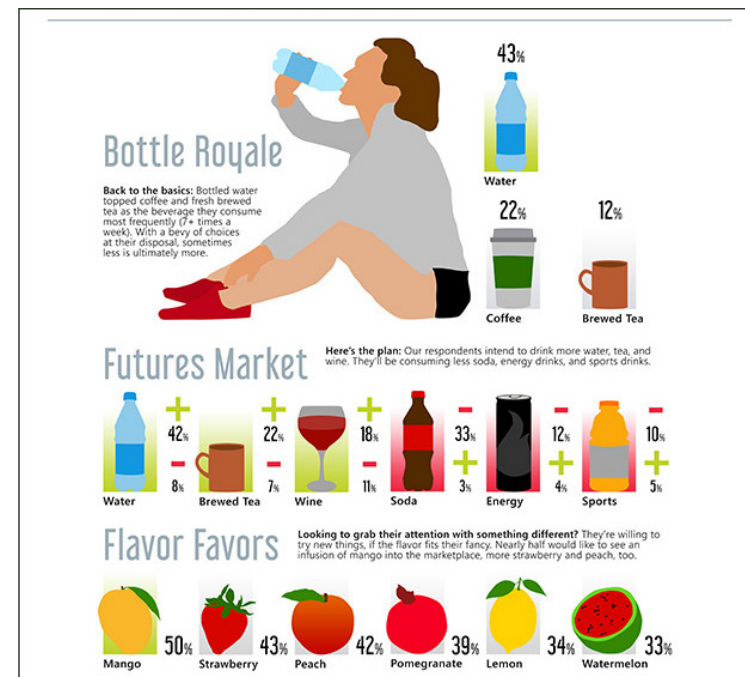
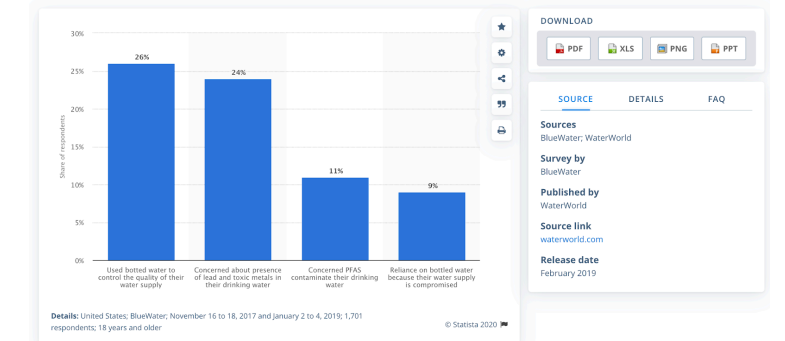
## ideal beverage temperature increases productivity

"the cold, refreshing jolt of energy they need to get through the rest of the day"

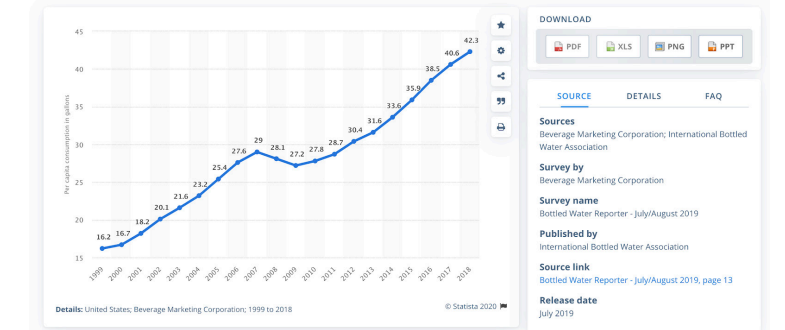
"Improving productivity starts with a glass of water. That water eases dehydration and expands the brain's grey matter. By drinking enough water every day, people see a 14 percent increase in productivity at work and at home."

## feeling insecure about the water quality lead them to use

Concerns on water contamination in the United States as of 2019



Per capita consumption of bottled water in the United States from 1999 to 2018 (in gallons)



<https://nutrifusion.com/bottled-water-top-beverage-among-generation-z/>

<https://www.dailymail.co.uk/health/article-2366353/How-drinking-glass-water-make-brain-14-faster.html>

# Market Reserch



# direct competitors

brand name colors

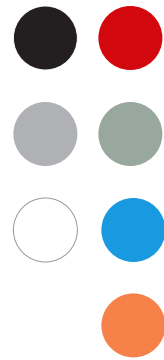
description

imagery

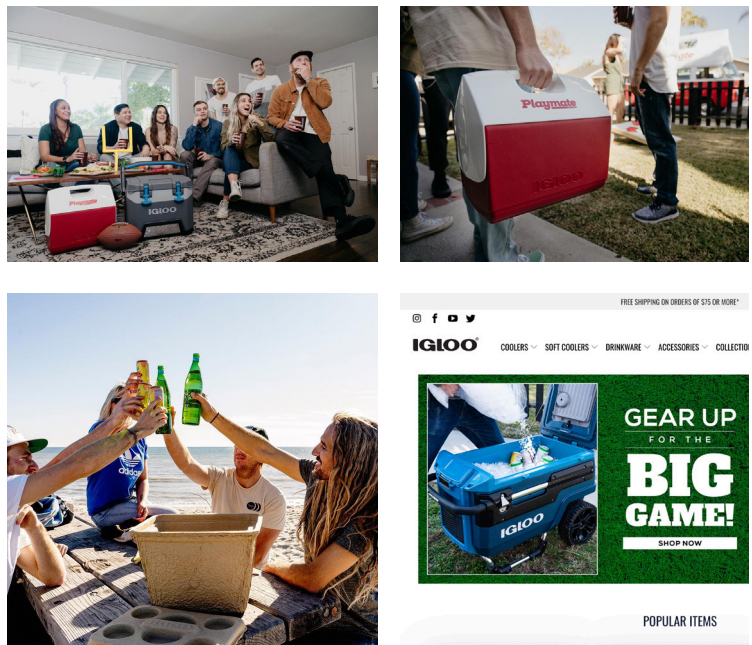
products

keywords

**IGLOO®**  
Igloo

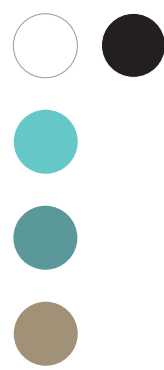


Igloo Products Corp. is an American manufacturer of ice chests, drink containers and supporting accessories.

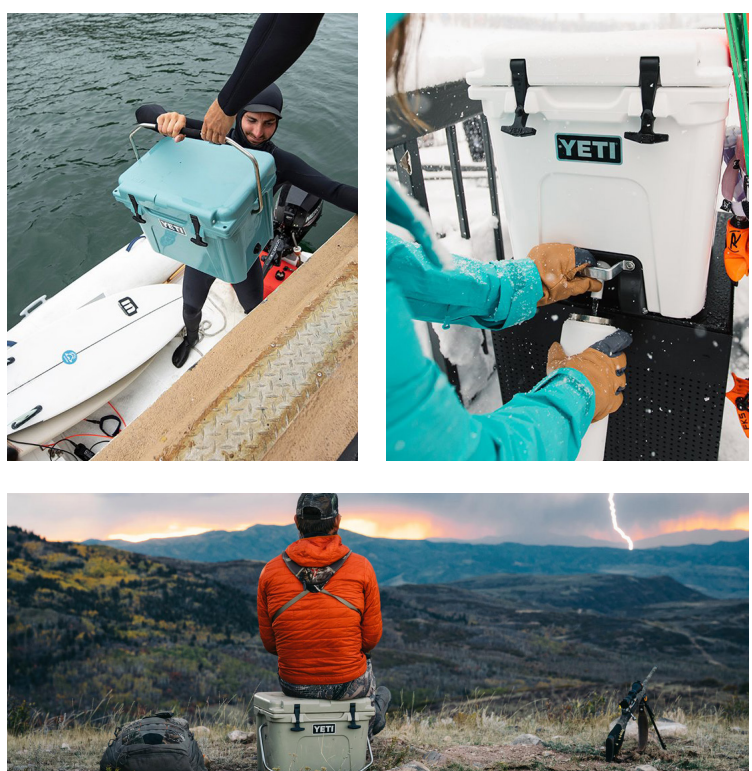


general family American super bowl football games party fun joyful

**YETI®**  
Yeti



YETI is an Austin, Texas-based manufacturer of outdoor life-style products such as ice chests, vacuum-insulated stainless-steel drinkware, soft coolers, and related accessories.



fishing outdoor professional-level well-designed high-quality expensive

brand name	colors	description	imagery	products	keywords
<b>ENGEL</b> Engel		<p>The original and still the best, Engel Coolers are the gold standard in high-performance, durable and affordable coolers, and so much more. For the past 56 years, people who've needed to keep things cold have turned to Engel, the pioneer in portable refrigeration and cooling.</p>			<p>outdoor camping forest camo hunting fishing nature wild</p>
<b>STANLEY</b> Stanley		<p>Stanley is a brand of food and beverage containers invented by William Stanley Jr.</p>			<p>nostalgic regged American rough masculan camping family</p>

## comparing 1 gallon water jug



**NFL Tailgate Keg**  
Good gift for football fans  
Limited team selection  
Pricey for the overall quality



**Gallon Guard Cover**  
Thick neoprene construction  
Machine washable  
Zipper isn't terribly sturdy



**Isolator Fitness Isojug Combo**  
Top-quality zippers  
Strap makes for convenient carry  
Pouring from it can be tricky



**Hydro Flask Oasis**  
Retains heat for up to 12 hrs  
Just about 15 inches tall  
Powder coated for longevity



**Rtic One Gallon**  
Wide opening for easy filling  
Stays cold for up to 24 hours  
Half-gallon size also available



**Yeti Rambler Jug**  
Equally fine for cold and hot drinks  
Heavy-duty stainless steel  
Totally dishwasher safe



## indirect competitors



# Product Analysis



# unclear category

**Similar product exist within brand**

VACUUM INSULATED STAINLESS STEEL GROWLER



PARTY CIRCLE COOLER



**Coleman Drinkware**

**Coleman cooler**

## unboxing experience

When shipped, the beverage cooler is distributed in a basic cardboard box through amazon, walmart.com, or other ecommerce platform.

The beverage cooler is shipped and delivered to consumers pre-assembled. When users open the cooler they notice the amount of open space found inside the cooler.



## packaging

The only “package” on product itself is color printed plastic film label sticker.

Although this is the only ‘packaging’ we are dealing with it is important to note that there is an enormous amount of empty space, “air” being sent to stores as well as to consumers. This air is valuable real estate that costs money and resources to ship.



**Q: Can we use sustainable water-resistant material?**

Paper / non-sticker

**Q: How can we minimize dead space so these products are being shipped more efficiently and sustainably?**

# disassembly

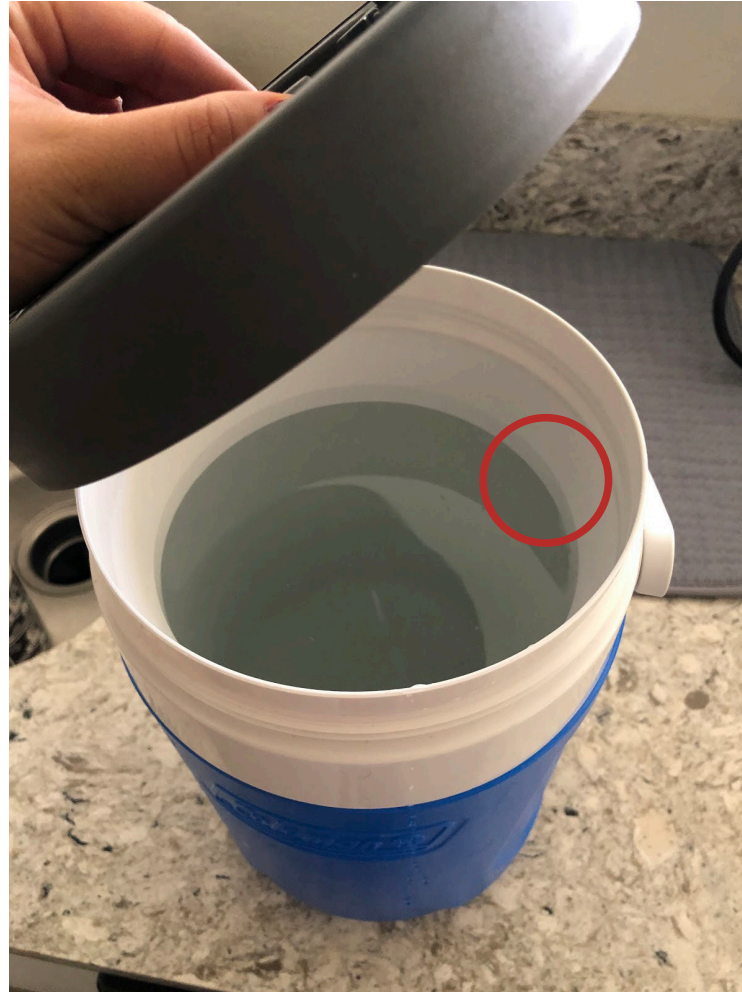


Despite there are few parts, the main body that break easily is impossible to recycle.



Direct landfill cause micro-plastic pollution (especially foam) and off gassing.

## product testing



it has plastic/oily odor from interior  
easy to clean, no problem to put the full hand in



missing grip when turning the lid  
no feedback when the lid is fixed



awkward to hold when drinking from a full jug  
hygiene problem



water leak after shaking



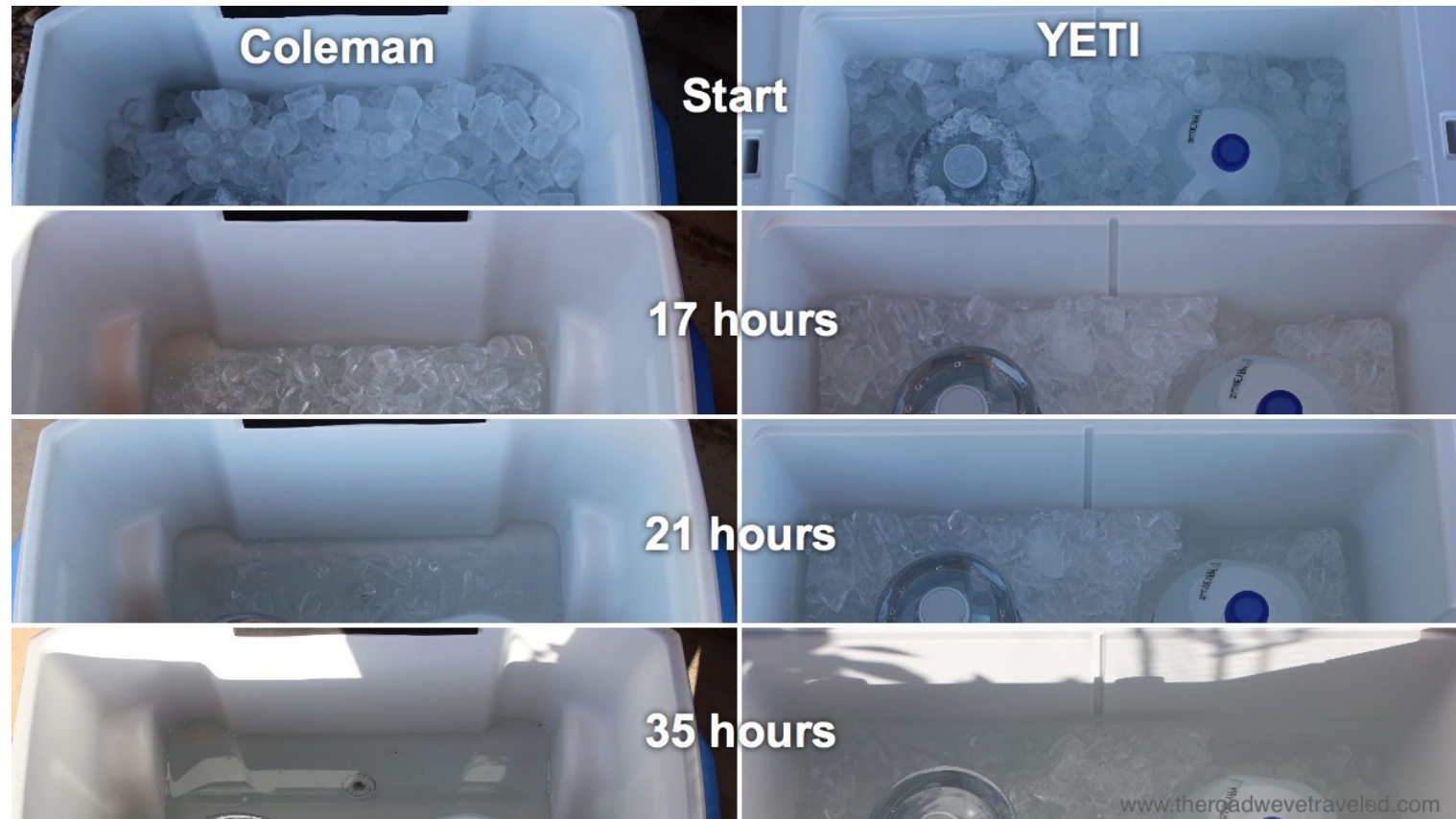
# analysis

## good

Versatile (college, work, sports, camping)  
 Durable  
 Sturdy structure  
 Good price-value, affordable  
 Function steadily ( out of sunlight )  
 Interior doesn't stain easily

## bad

No gasket between lid and container  
 Insulation capability weak  
 ( if using ice it melt quickly)  
 Missing water outlet  
 Handle feels flimsy and cheap, pops off rather easy



Ice will last in the cheapest Coleman cooler within 18-24 hours.

Ice will last in a Coleman steel belted cooler for about 2 to 3 days.

Ice lasted in a Pelican Elite cooler for about 4 to 5 days.

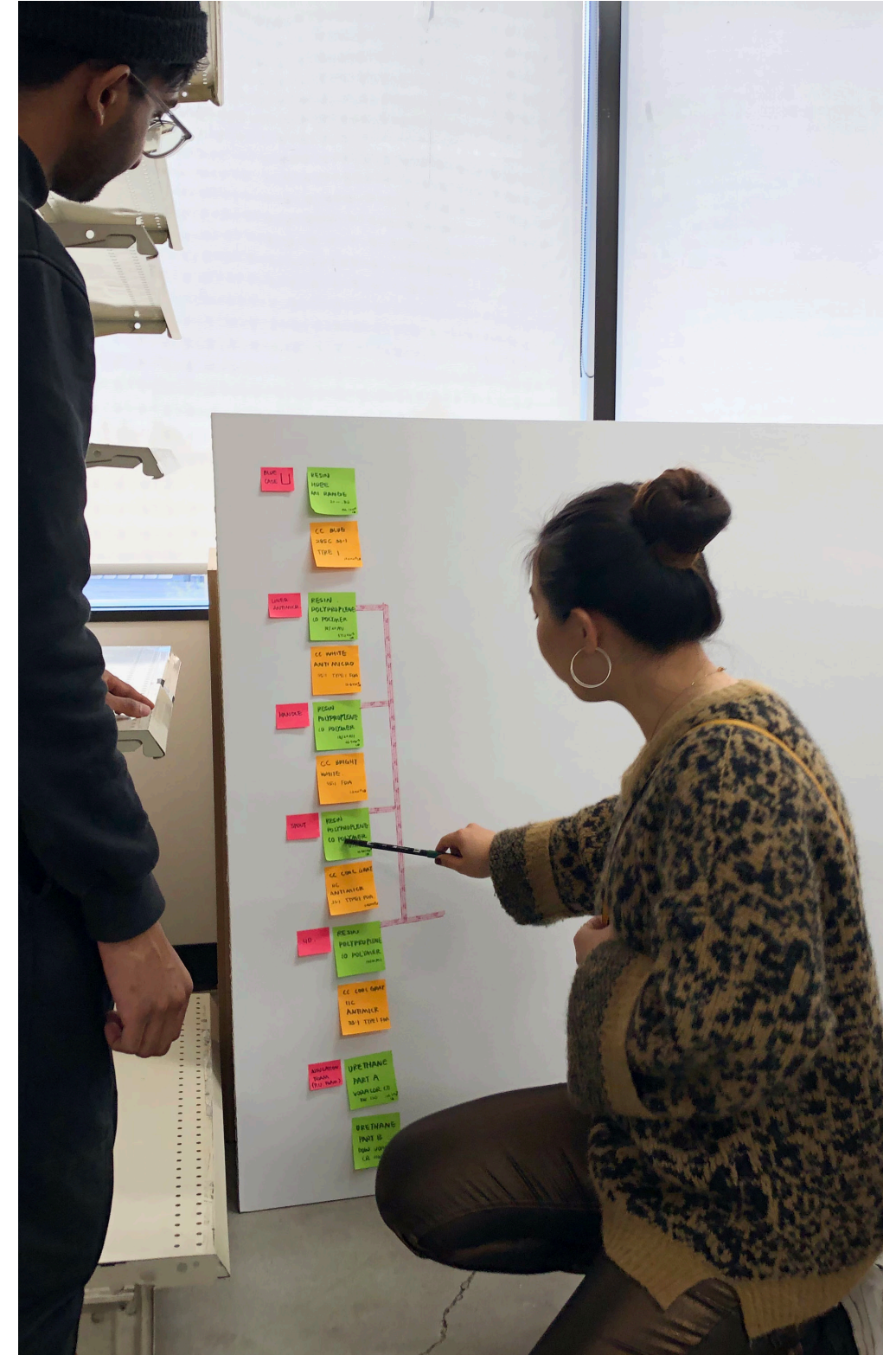
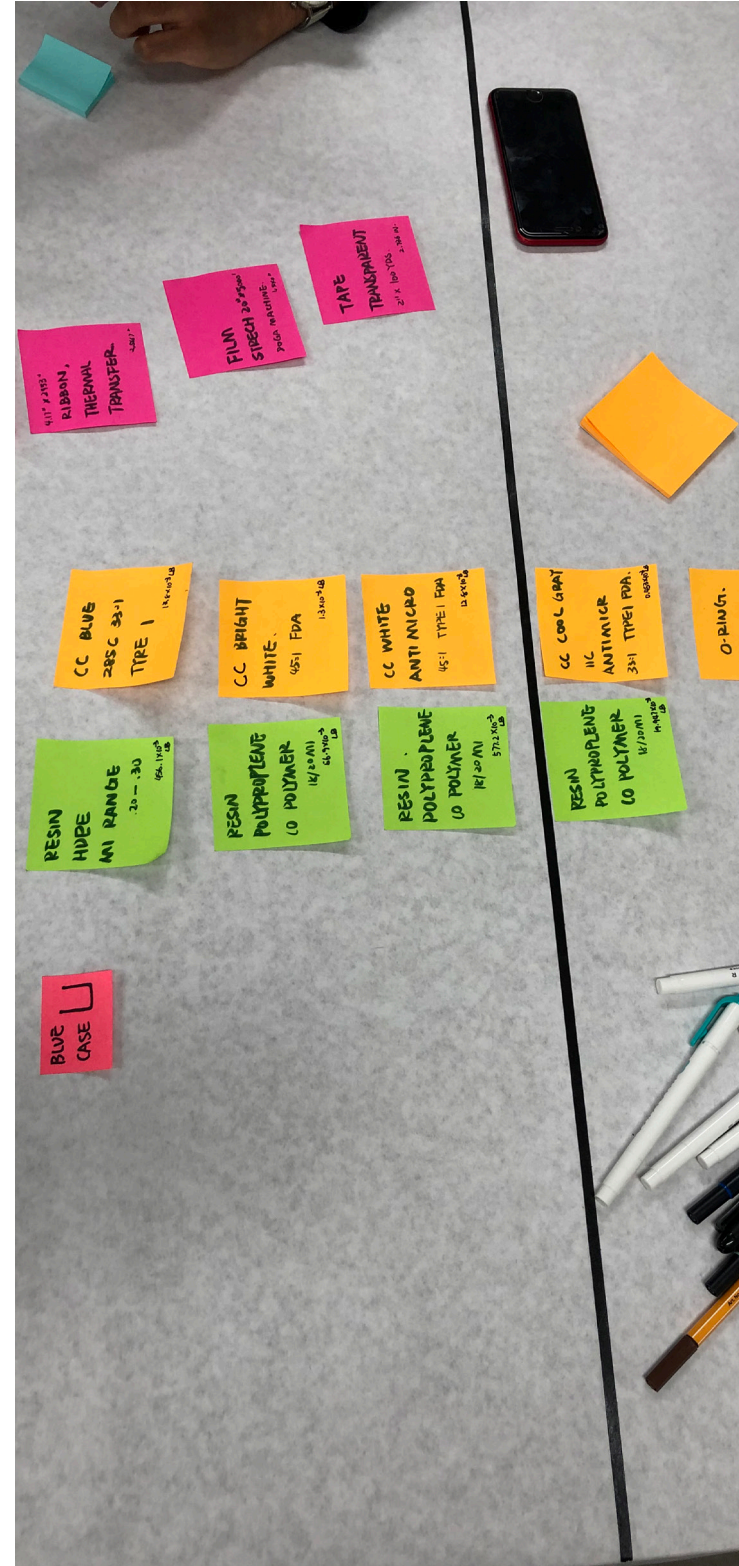
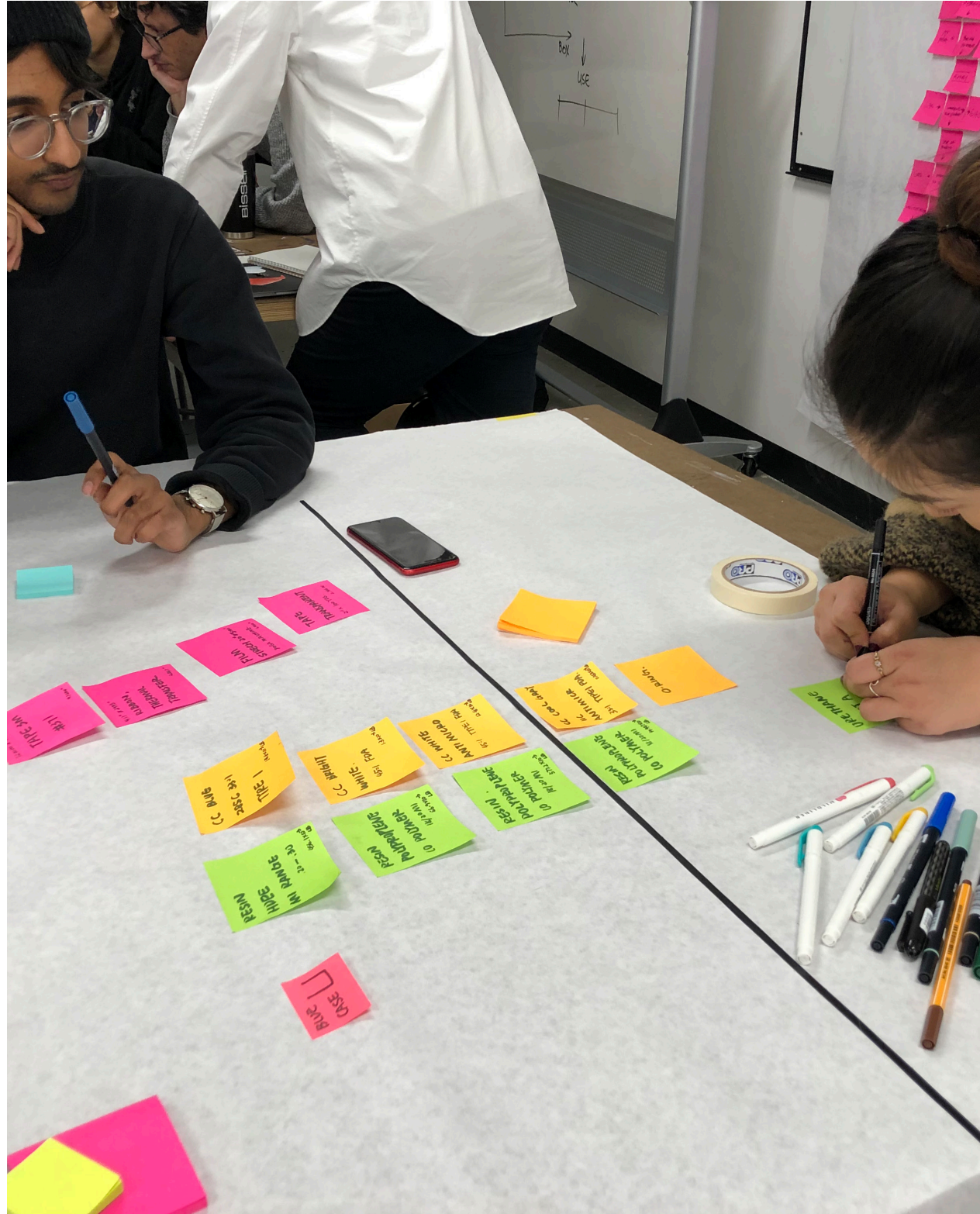
Ice lasted about 4 days in a Yeti Tundra 45 cooler.



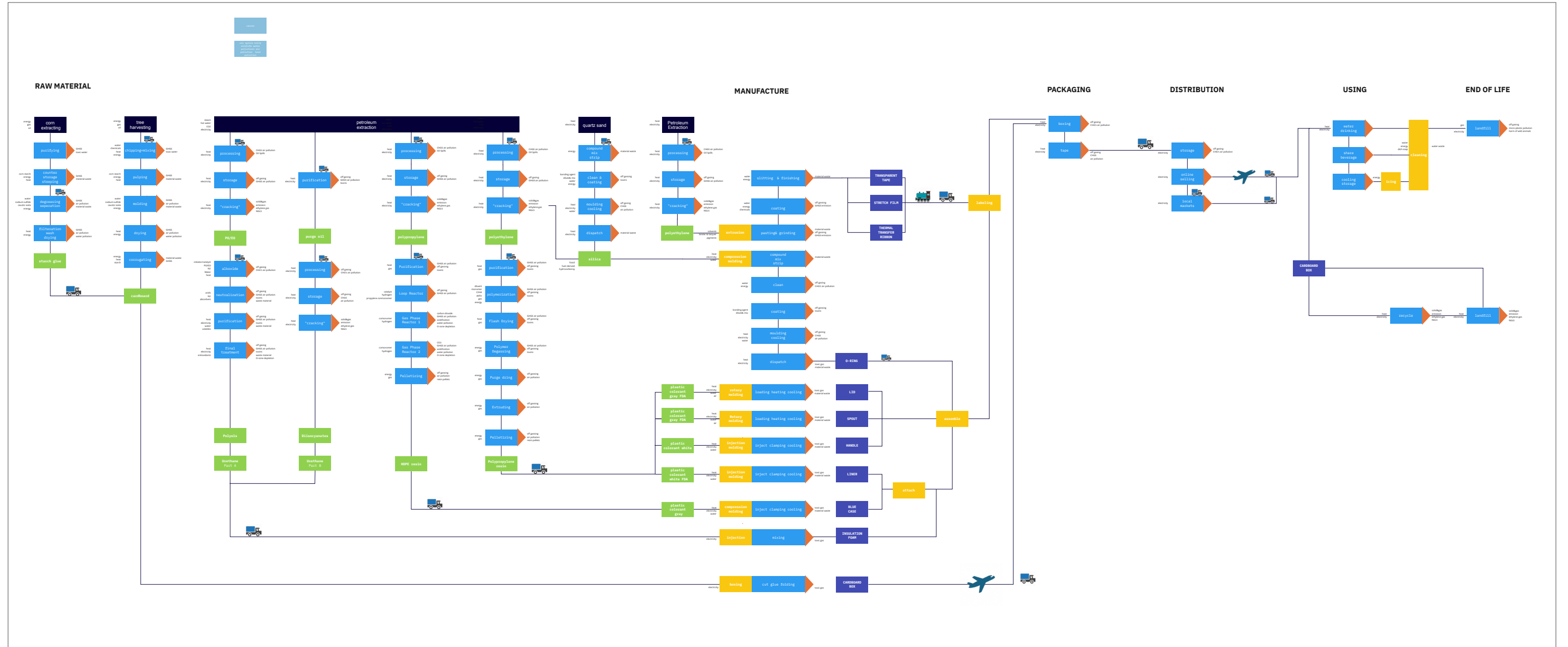
# Life Cycle Analysis



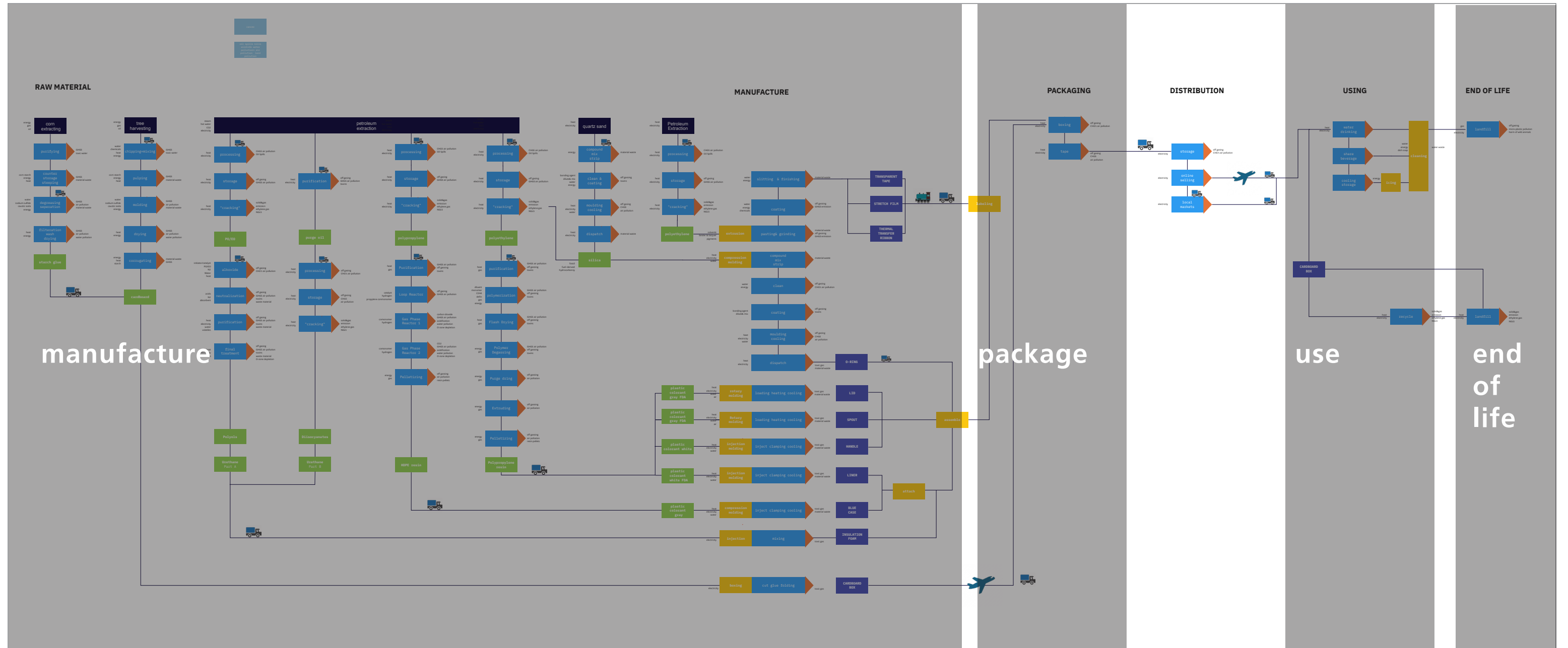
# draft process tree



# life cycle analysis



# life cycle analysis



# OKALA impact score

		material or process	Component number	Object description	material or process	Component quantity / 1000 units	unit	OKALA factor points	unit	Total Impact/Lifetime	Total Impact/Lifetime
material	blue case	colored pigments	1000001874	CC BLUE 285C 33:1 TYPE 1	colored pigments	13.8	LB	0.2	LB	2.76	3348.2625
		primary HDPE	1000000550	RESIN, HDPE MI RANGE .20 - .30	Resin HDPE	456.1	LB	1.7	LB	775.37	
	HANDLE	white pigments	1000000478	CC BRIGHT WHITE 45:1 FDA	colored pigments	1.3	LB	2.8	LB	3.64	
		Resin Polypropylene	1000000532	RESIN, POLYPROPYLENE CO POLYMER 18/20 MI	Resin Polypropylene	56.9	LB	1.9	LB	108.11	
	LINER WHITE ANTI-MIC	white pigments	1000002433	CC WHITE ANTIMICRO 45:1 TYPE 1 FDA	colored pigments	12.8	LB	2.8	LB	35.84	
		Resin Polypropylene	1000000532	RESIN, POLYPROPYLENE CO POLYMER 18/20 MI	Resin Polypropylene	577.2	LB	1.9	LB	1096.68	
	LID GREY	primary HIPS	4010043409	CARTON LINER ASSY 1GAL JUG 6337 C006	primary HIPS	166.667	EA	1.8	EA	300.0006	
		Resin Polypropylene	4010055391	RESIN, POLYPROPYLENE CO POLYMER 18/20 MI	Resin Polypropylene	192.82	LB	1.9	LB	366.358	
	O-RING	colored pigments	4010055391	CC COOL GRAY 11C ANTIMICR 33:1 TYPE1 FDA	colored pigments	4.37	LB	0.2	LB	0.874	
		elastomer silicon	5590-285	FDA RUBBER SILICON	elastomer silicon	8.00	LB	1.7	LB	13.6	
SPOUT ANTI-MIC	Resin Polypropylene	1000000532	RESIN, POLYPROPYLENE CO POLYMER 18/20 MI	Resin Polypropylene	19.947	LB	1.9	LB	37.8993		
	colored pigments	1000002423	CC COOL GRAY 11C ANTIMICR 33:1 TYPE1 FDA	colored pigments	0.453	LB	0.2	LB	0.0906		
FOAM INSULATION	PU rigid	1000000481	URETHANE, PART A VORACOR CE 108 ISO	Urethane	123.7	LB	2.8	LB	346.36		
	PU rigid	1000000001	URETHANE, PART B, DOW VORACOR CR 1024	Urethane	93.1	LB	2.8	LB	260.68		
material processing	blue case	Rotary Molded	1000001874		Resin HDPE	469.8	LB	1.4	LB	657.72	1760.5768
	lid	Injection Molding	4010055391		Polypropylene	197.19	LB	0.72	LB	141.9768	
	spout	Injection Molding	1000000532		Polypropylene	20.3	LB	0.72	LB	14.616	
	liner	Rotary Molded	1000002433		Polypropylene	590	LB	1.4	LB	826	
	o-ring	compression molding	5590-285		silicon rubber		LB	0.73	LB	0	
	handle	Injection Molding	1000000478		Polypropylene	58.2	LB	0.72	LB	41.904	
	insulation	Injection	1000000481		PU foam	216.8	LB	0.35	LB	75.88	
film lable	film extrusion				8	LB	0.31	lb	2.48		
package	package tape/film	primary LDPE	1000000593	72MM X 914M TAPE 3M #371		4,724.40	IN				0.012
		primary LDPE	1000000592	RIBBON, THERMAL TRANSFER 4.17" X 2953"		2,566.67	IN				
		primary LDPE	1000000553	FILM, STRETCH 20" X 5000' 80GA MACHINE		1,440.00	IN	8*1.5	LB	0.012	
		primary LDPE	1000000590	TAPE, TRANSPARENT 2" X 100 YDS		2,736.00	IN				
lable	primary LDPE	4010054067	LABEL POS FOR 3000003745 W/AM		1,000.00						
landfill	blue case	thermoset plastic	1000001874			469.8	LB	0.61	LB	286.578	670.6774
	lid	PP	4010055391			197.19	LB	0.26	LB	51.2694	
	spout	PP	1000000532			20.3	LB	0.26	LB	5.278	
	liner	PP	1000002433			590	LB	0.26	LB	153.4	
	o-ring	elastomer silicon	5590-285				LB	0.39	LB	0	
	handle	PP	1000000478			58.2	LB	0.72	LB	41.904	
insulation	thermoset plastic	1000000481			216.8	LB	0.61	LB	132.248		
											5779.5287

**5.77**  
Total Impact / Lifetime

**3.29x10<sup>-4</sup>**  
Total Impact / Hour (For 2 Year Lifetime)

**through**

**Sustainable & ethical methods  
Impactful storytelling  
Innovating on the sensorial experience**

**goals**

**Eliminate plastic use  
Reincarnate a powerful brand  
Create visionary water drinking experience**



## rethinking our scope



### Questioning the Package

What is the transportation of water in the first place. What is necessary and what is not? Applying less is more.



### The Experience of Purifying Water

What is water is collected and cleansed by the user instead of brought over?



### Swarovski Crystal School

The swarovski crystal school pushes water to a level of social impact and education for kids in developing countries.

## rethinking features



### Real Time Filtration

Capturing water in the environment, filtering in real time, and drinking the water at the sourced location.



### UV Cleansing

Adding a secondary level of cleanliness through UV light provides reassurance to users that their water is clean.



### Digital Experience

Digitization of the product that tracks the hydration and nutrition to elevate the user experience.



## rethinking materials



### Bioplastics

plastic materials produced from renewable biomass sources.

### Raw Materials

Natural and honest materials with an origin from mother nature. Responsibly sourced.

### Biodegradability

If a product must last for a short period of time, how might it be beneficial in its end of life?

### Materials to last for Generations

Beautiful, ethically sourced metals and materials that will stand the test of time.

## exploring natural materials



### Sheep Wool Insulation

Animal based cellulose like sheep wool can be used for insulation.



### Sodium Alginate

Sodium alginate from algae and calcium chloride.



### Plant Based Insulation

Honest materials derived from plants like coconut husk can be used for insulation.



### Mineral Based Materials

Perlite and vermiculite minerals as an alternative insulation.

## rethinking the end of life



### Refurbishment

Prolonging the life of the product through repairing and fixing the product. What is Coleman had a refurbishment division?

### "Worn" Market

Like passing these objects from generation to generation, what can we learn from Patagonia's worn wear?

### Renewal Workshop

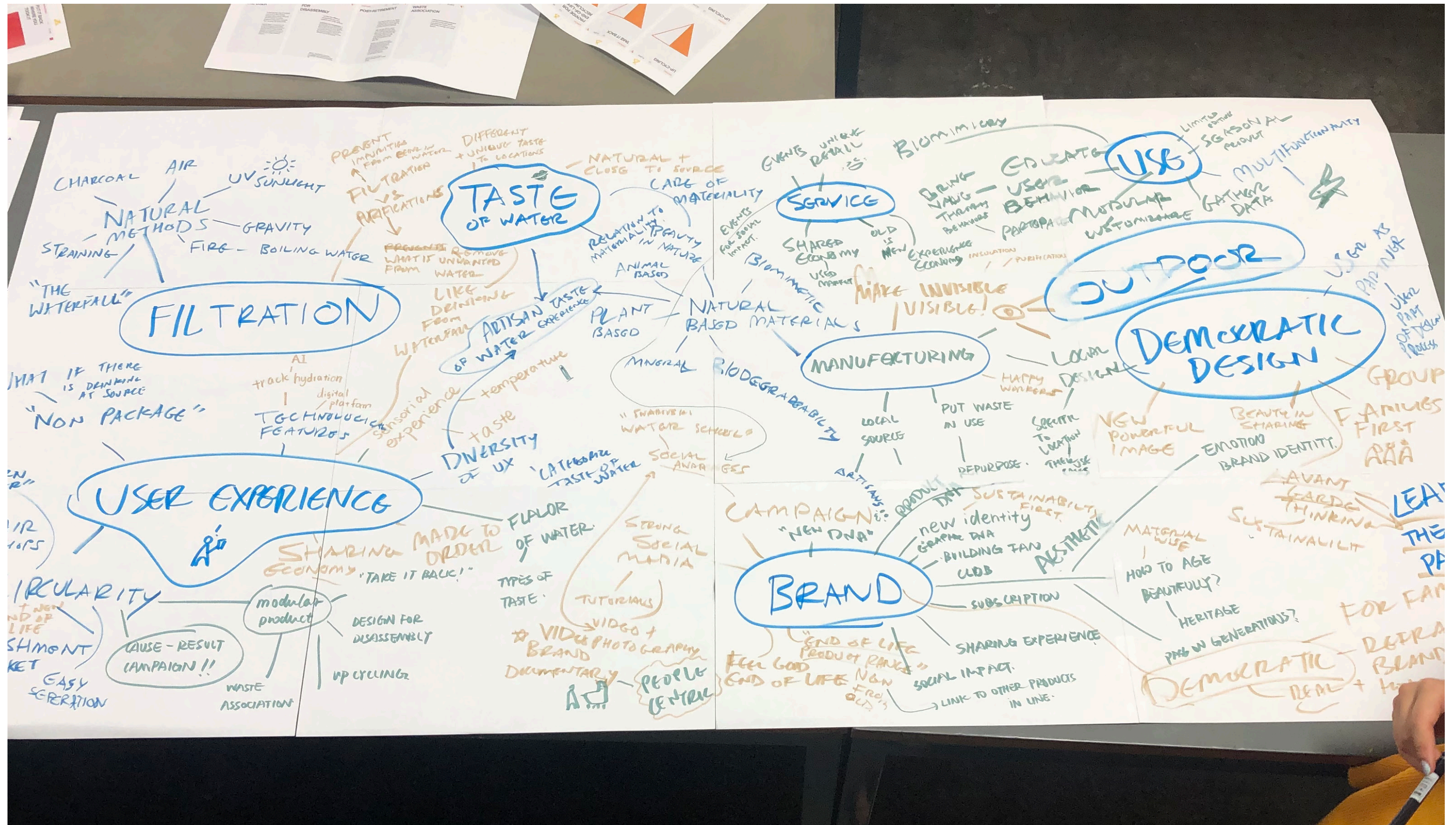
An in person, hands on workshop to learn how to refurbish and bring new life to your beloved projects.

### Take Back Program

Can Coleman follow the idea of a take back program, ensuring that they will be in charge of what and where the product goes in end of use. Like a used car market.

# Ideations





DRINK - TAPING WATER TAP  
 COOL - REPAIRING REPAIRING NOTE  
 EXPANDABLE

**PUR Faucet Filtration System** \$19.96  
 - the microbiological filter provides 5 years of safe water  
 - water tastes good  
 - give back social impact program

**LIFESTRAW GO** \$39.9  
 - the microbiological filter provides 5 years of safe water  
 - water tastes good  
 - give back social impact program

**LIFESTRAW Com- \$395 munity**  
 - the microbiological filter provides 5 years of safe water  
 - water tastes good  
 - give back social impact program

COLLECT RAW WATER  
 ↓  
 PURIFY FILTER  
 ↓  
 FREE TAP

FREE WATER  
 RAIN WATER CAMP GROUNDS  
 PUBLIC INSTALL

**WHAT IF "COLEMAN" WAS SYNONYMOUS WITH CLEAN, PURE WATER?**

**Team CLEAN WATER**  
 PERSONAL WATER COLLECTION CABAFE

**Team CLEAN WATER**  
 ARTISAN WATER TASTER  
 FILTER REUSABLE  
 HOT  
 COLD  
 FLAVOR

**Team CLEAN WATER**  
 WATER COLLECTION NATURE SCULPTURE

**Team CLEAN WATER**  
 NATURAL AIR WATER COLLECTION SYSTEM

**Team CLEAN WATER**  
 SEASONAL BOTTLE  
 SEVERAL SUBSTITUTION TO PREVENT FLAVOR  
 SLIP AROUND AND STAY

**Team CLEAN WATER**  
 WATER GATHERING  
 CANOPY NATURE PARK FREE SPOUT  
 PERSONAL OWN  
 WATER COLLECTING TENT  
 WATER COLLECTION FABRIC SPOUT

**Team CLEAN WATER**  
 FILTER  
 SHARPEN BEFORE  
 REPAIRING INTER SYSTEM  
 WATER

**Team CLEAN WATER**  
 COLEMAN BRANDED WILDLIFE WATER WEARS

**EASY SEPERATION**      **WASTE ASSOCIATION**

**ANTI-BACTERIA FLOW WATER**

**WATER SOMMELIER STANDARDS**

**1.147 kg**      **0.65 kg**

**TDS LEVEL**  
"TOTAL DISSOLVED SOLIDS"

**ELECTROLYTES**  
"PURIFIED" VS "MINERALS"

**CHARACTERISTICS**  
NATURAL, FRUITY, FLAVY, PLAIN, MINERAL...

**SENSORIAL**  
SMELL, TASTE, FEEL, SMOOTH, SOFT

**PH**  
WATER IS 6.5 TO 8.5  
ACIDIC VS. ALKALINE

**ANTIOXIDANTS**  
PREVENTS CELL DAMAGE

**OXYGEN OXIDATION REACTION**

**NOT AT HAND**

**THIS IS NOT 100% (OR) NATURAL TASTE OF WATER**

**WATER IS DIVISION AND WATER RELO TO PREVENT BACTERIA & IMPURE WATER**

**AIR AID JUG**

USE WINE AERATOR

KEEP OXYGEN IN WATER HELP PREVENT BACTERIA GROWTH

**WATER AERATOR**

EX: WINE AERATOR

**FILTRATION THROUGH AERATION**

INTRODUCE OXIDATION & BREATHING ON ITS OWN WATER SOURCE

**BUG ENCOURAGE USING UV SUNLIGHT**

**PREVENT BACTERIA GROWTH**

natural UV light

**UV LIGHT (SUN)**

UV UVA | UVB | UVC (RARE RAYS)

SMART GLASS THAT BLOCKS HEAT NOT LIGHT (UVC)

ARCHITECTURE SOLUTION THAT BLOCKS HEAT NOT LIGHT (UVC) (LONGER TO RETURN)

INTUITIVE WISDOM (SUNSHINE) ALLOW UV

PERFECTIVE THAT TO INCREASE UV AMOUNT

QUANTUM FILTER WITH SUNLIGHT

**FABRIC BOTTLE**

**END OF LIFE (N&N) FROM SOCIAL IMPACT TO OTHER PRODUCTS**

**FILTERING OPPORTUNITY**

**MANUAL PUMP**

**REFILL PUMP / BASE**

**CERAMIC LINING**

**FABRIC BOTTLE / JUG**

**HOW CAN WE MINIMIZE THE COOLER'S FOOTPRINT BY 99%?**

**FABRIC**

FOLDS OVER EVEN FOUR LACES FIT

TECHNOLOGICAL FABRIC BOTTLE

**ORIGAMI PLATYPUS BOTTLE**

**FABRIC BOTTLE**

**MANUAL PUMP**

**REFILL PUMP / BASE**

**CERAMIC LINING**

**FABRIC BOTTLE / JUG**

**HOW CAN WE MINIMIZE THE COOLER'S FOOTPRINT BY 99%?**

**FABRIC**

FOLDS OVER EVEN FOUR LACES FIT

TECHNOLOGICAL FABRIC BOTTLE

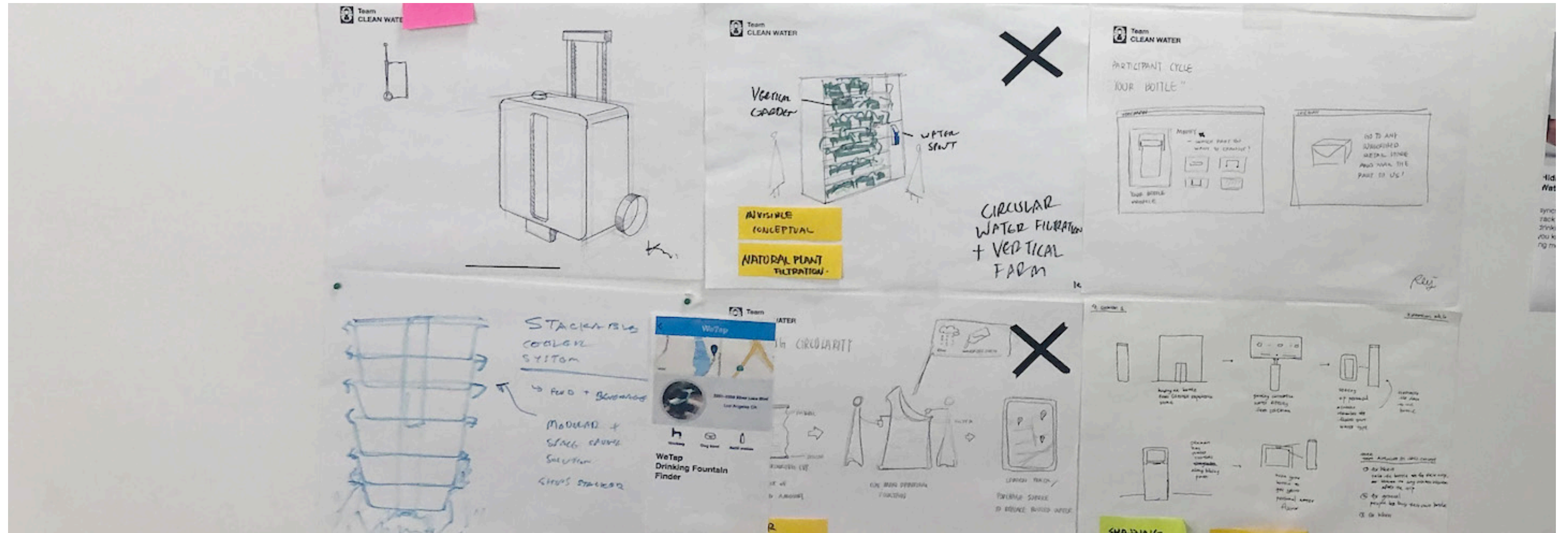
**ORIGAMI PLATYPUS BOTTLE**

**FABRIC BOTTLE**

A detailed ideation board for "Team CLEAN WATER" featuring various hand-drawn sketches, photographs, and printed materials. The board is organized into sections with the following content:

- Top Left:** "SHARING" sticky note, "bambao" text, and a "POSTER" THAT DOES GOOD sticky note. Includes sketches of a stack of water bottles and a "NATURAL AIR WATER COLLECTION SYSTEM".
- Middle Left:** "Team CLEAN WATER" logo, two photos showing hands repairing a blue jacket (labeled "refurbishment") and a person with a dog (labeled "'Worn' Market"). Text asks about the life of the product and passing objects across generations.
- Middle:** "WATER SHADES" text, a sketch of a stall labeled "COLEMAN" with "TOOLS" and "BOTTLE RENEWAL WORKSHOP" written nearby. A "RENEWAL" sticky note is present.
- Middle Right:** "BRAND EXPOSURE" sticky note, a sketch of a smartphone interface for "COLEMAN SHARG", and text like "LIKE PATAGONIA WORN WEAR". A "SHARG Eco APP" label is visible.
- Right Side:** A printed photo of a pile of plastic bottles, a "Take Back Program" text explaining a take-back model, and a "TOUCH SCREEN" sticky note.
- Bottom Left:** "WATER COLLECTING TENT" text, sketches of a water collector and a tent structure. A "WATER COLLECTOR FABRIC" label is also present.
- Bottom Middle:** "Team CLEAN WATER" logo, "EDUCATE USER" sticky note, a sketch of a "WATER PAVILION" structure, and text: "BUILT FOR SOCIAL IMPACT & AWARENESS" and "EDUCATION PAVILION PLATFORM FOR COMMUNITY TO TALK ABOUT CLEAN/NATURAL WATER".
- Bottom Right:** "Team CLEAN WATER" logo, "MADE TO ORDER" text, two interface sketches for a "PARTICIPANT CYCLE YOUR BOTTLE" app, and sticky notes: "CREATE EMOTIONAL ATTACHMENT TO IT - WE CREATE YOUR OWN", "MAKE TO ORDER", and "MULTI FUNCTIONAL".
- Bottom Far Right:** A printed image of a "Hydrate Spark" water bottle with a red glow, priced at \$59.9.





## design concepts

## 01/ future nostalgia

Learning from the past in order to move forward.

### Nostalgic Heritage

Aesthetic  
Material  
CMF



### Well-aging modularity

Material  
Product  
Product in use



### Consumer Identity

Marketing  
Campaign

**Outer layer**



**Stainless Steel**



**Bio-Plastic/  
Recycled plastic**

**Insulation**



**Vacuum Insulation/  
Double Wall**

**Inner layer**



**Stainless Steel**

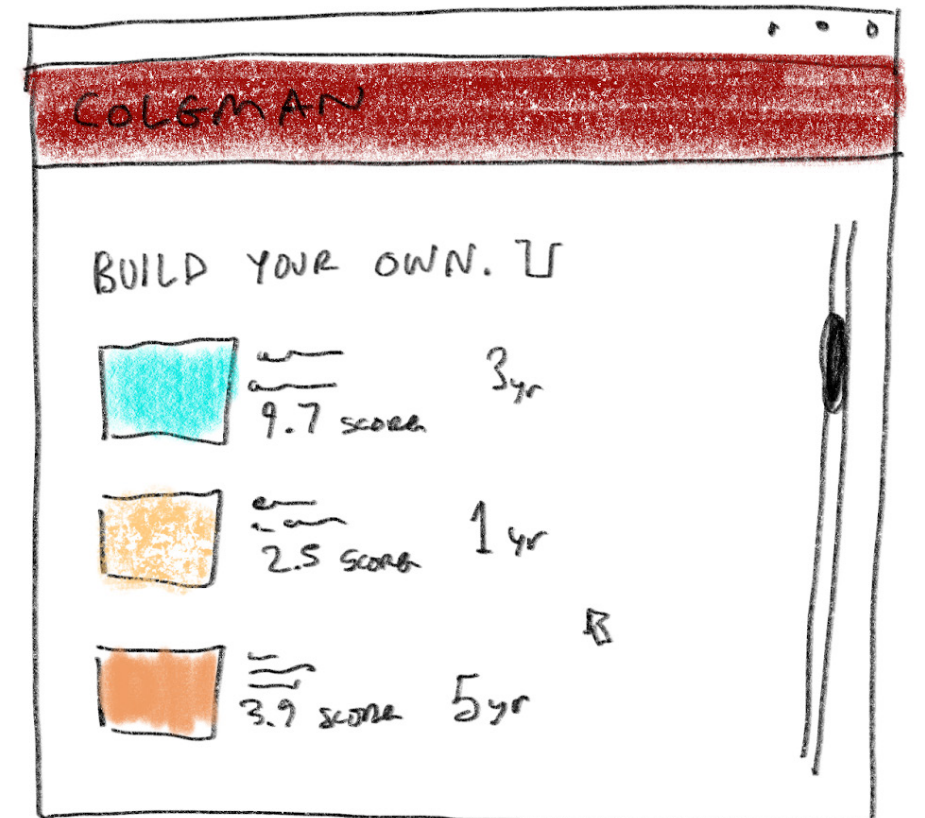
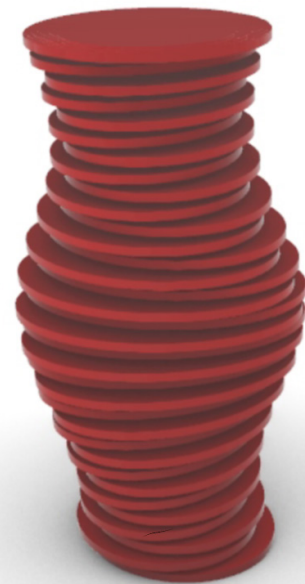
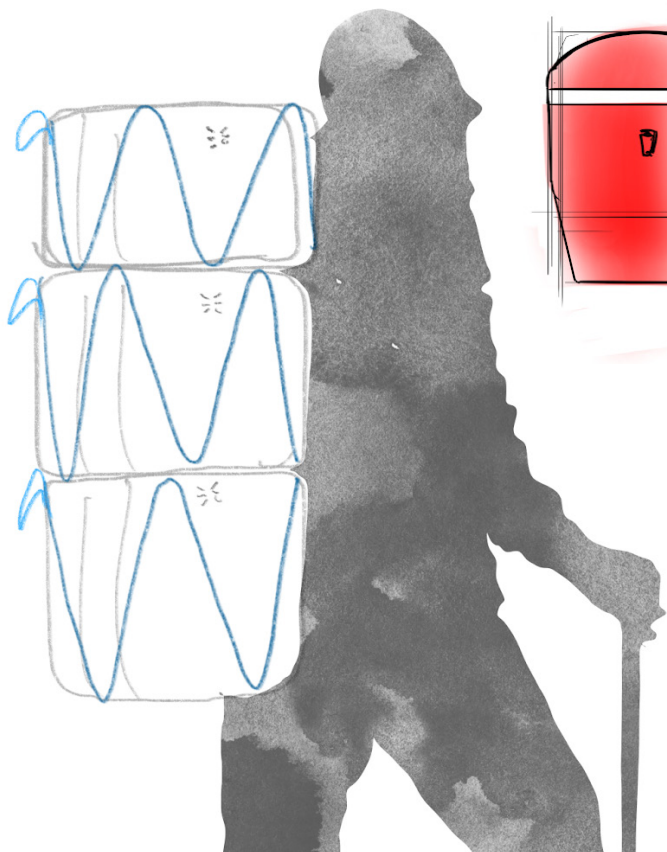
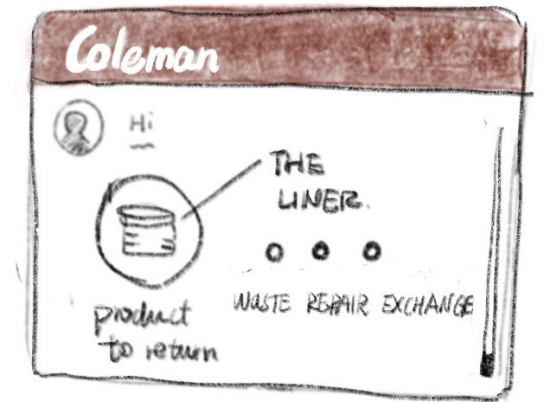
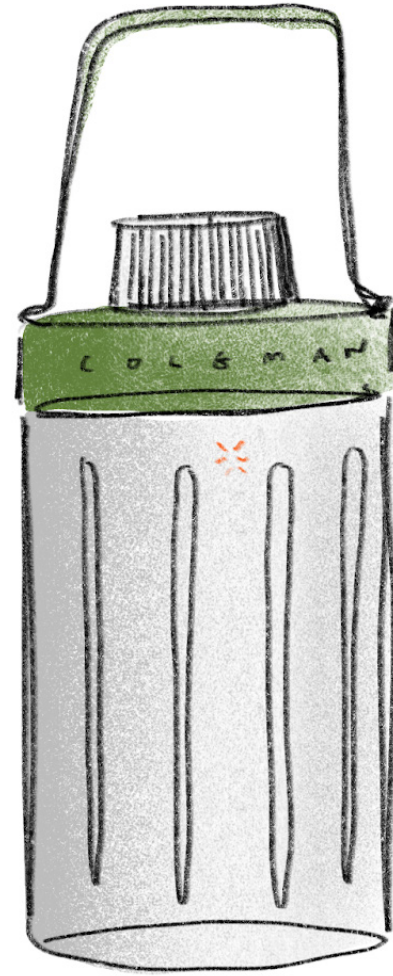
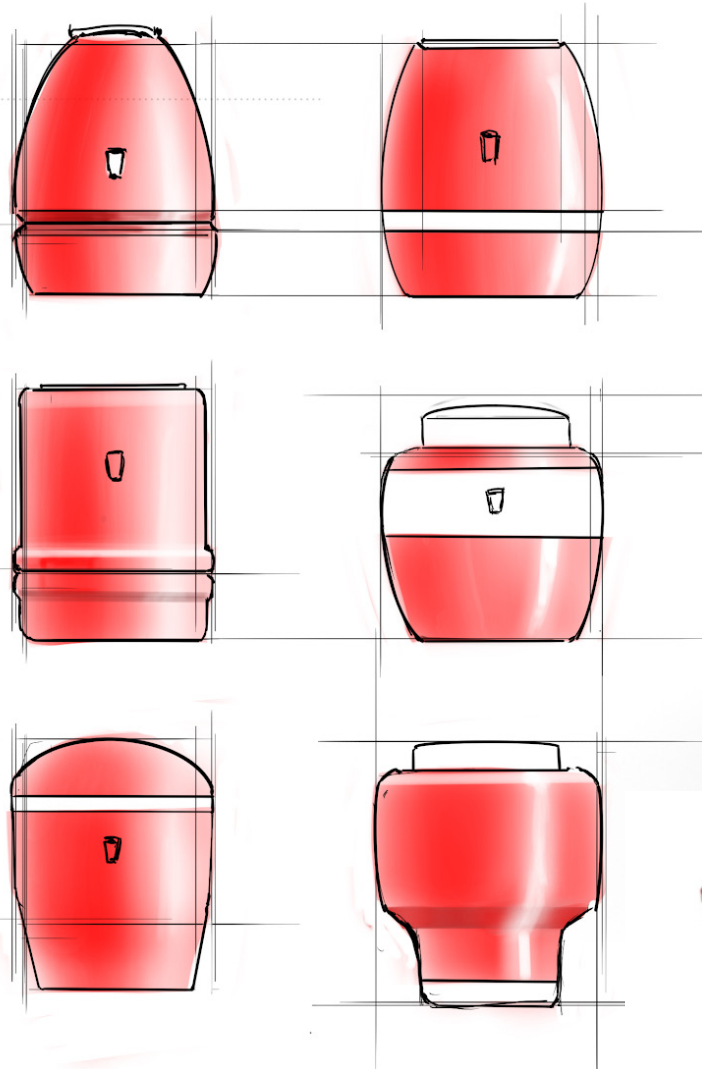
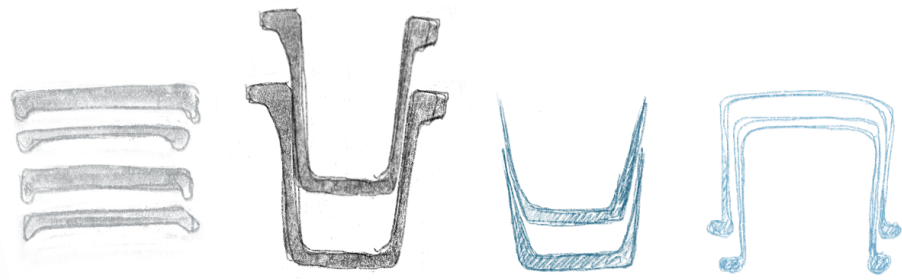
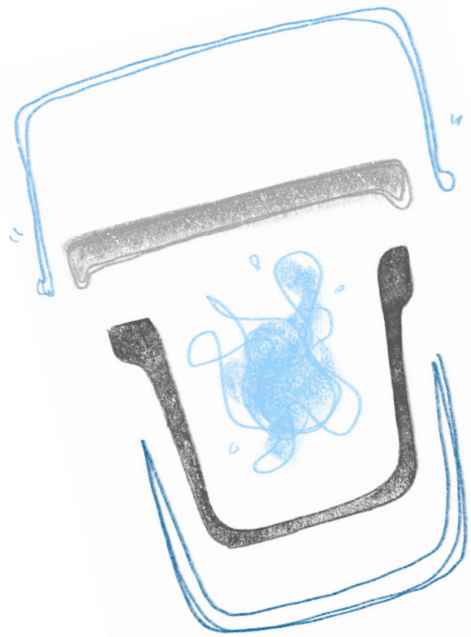


**Bio-Plastic/  
Recycled plastic**

**Proposal tech**



**Natural insulation replacement**



graphic styles

posters for faster horses music festivals



## design concepts

## 02/ soft tech

**Marrying advancement of technology with warm and comfortable materiality.**

**Fabric  
Drinkware**

Material  
Aesthetic



**Worn  
Repair**

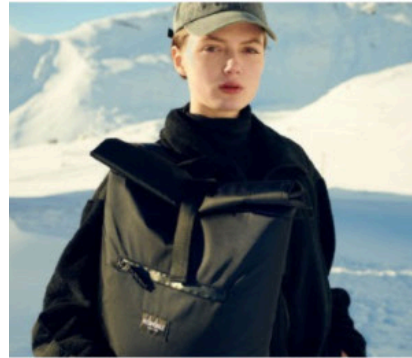
Campaign  
End of life



**Healthy  
Hydration**

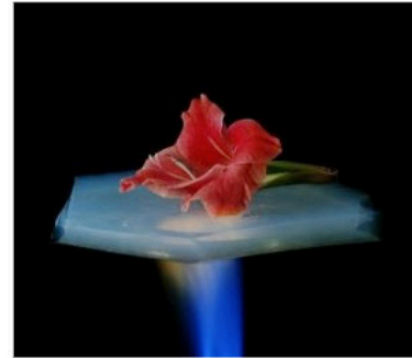
Product in use

**Outer layer**



**Econyl - recycled nylon**

**Insulation**



**Aerogel-recycled**

**Inner layer**



**Bioplastic-Algae resin**



**The Futurecraft.Loop uses one plastic**



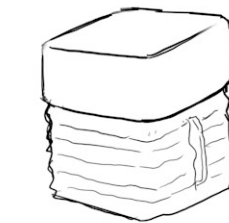
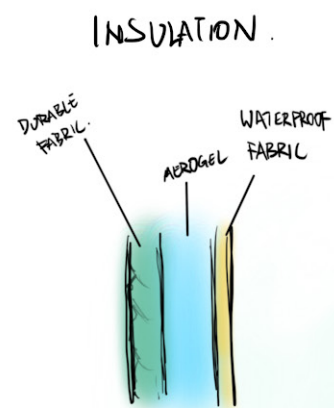
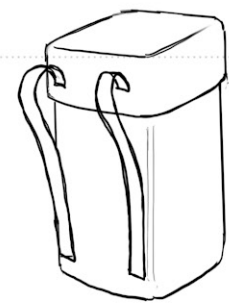
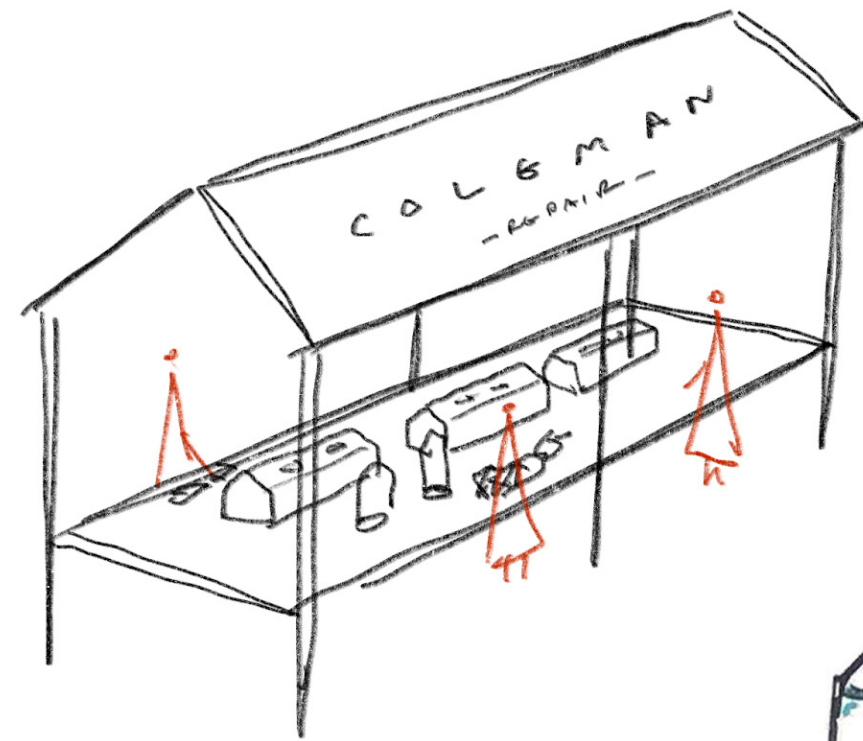
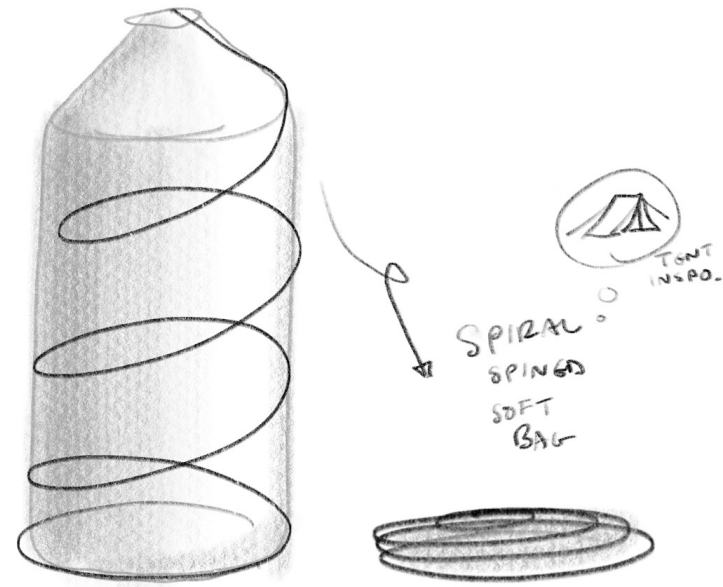
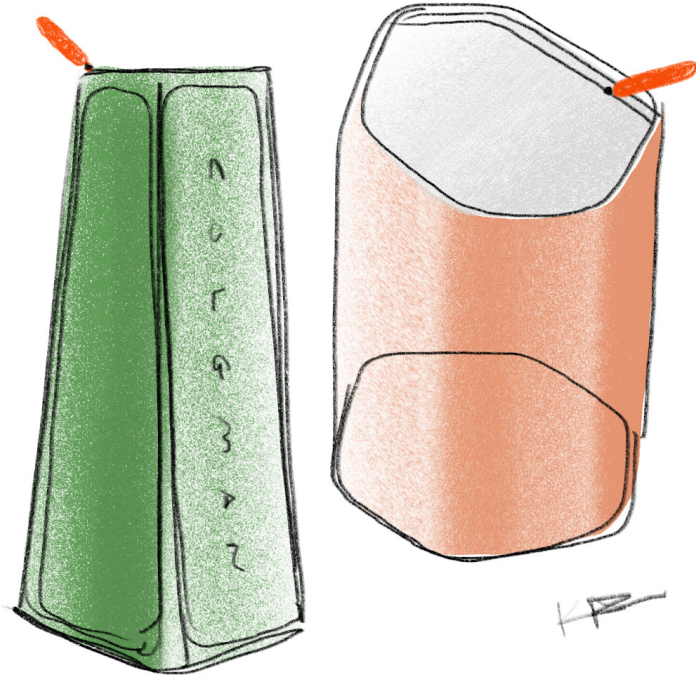
**Mycelium (rigid part)**



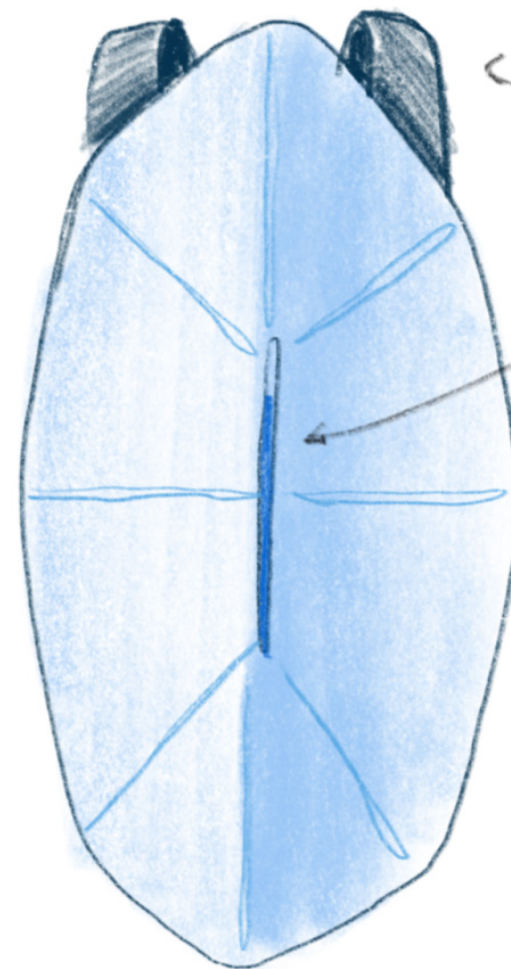
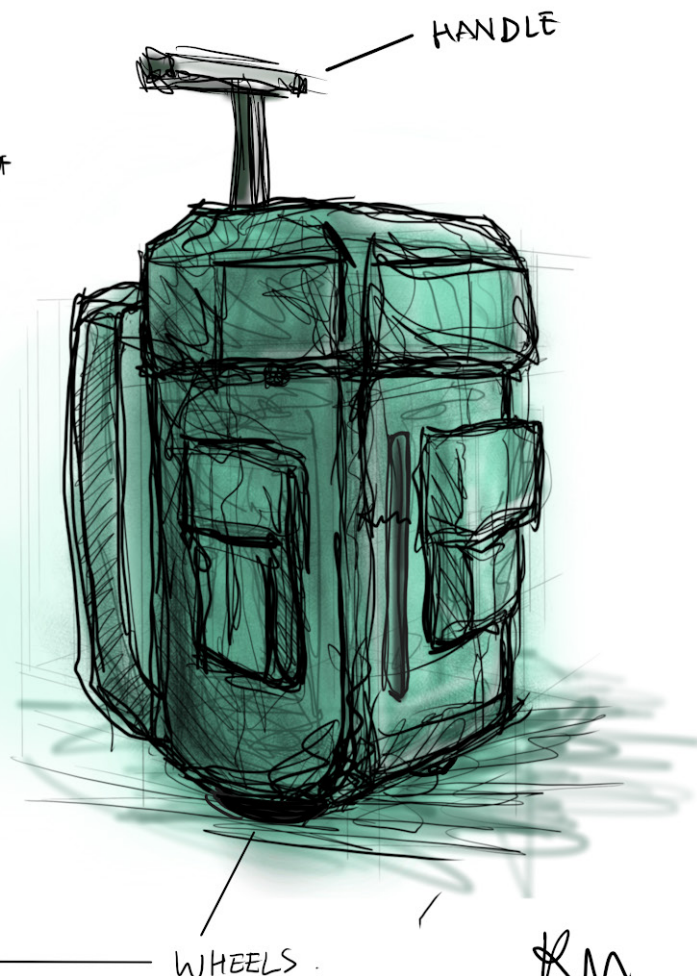
**Silicon Rubber**



**Worn repair**



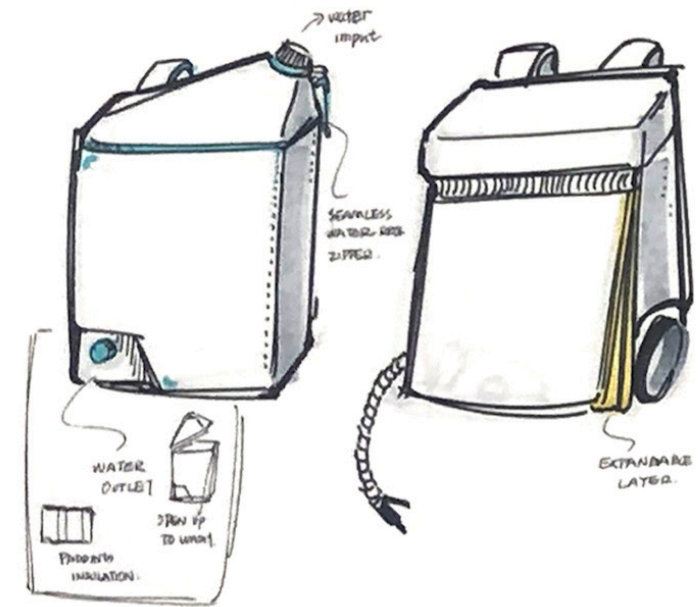
STRAP



BACKPACK STRAPS

WATER LEVEL

FOLDABLE FABRIC



RM



# graphic styles

## posters for refurbishment shop at the store

**Coleman Refurbishment Event** **05.05**

1531 Colorado Blvd,  
Pasadena 91024

scan to join us!  
at the Pasadena Coleman Store

**Coleman Refurbishment Event** **05.05**

1531 Colorado Blvd,  
Pasadena 91024

scan to join us!  
at the Pasadena Coleman Store

## design concepts

## 03/ sensing nature

Connecting with and fully experiencing nature through the sensorial.

**Healthy Hydration**

Product  
User habit



**Tasty Water**

Filtration  
Product in use



**Sensorial Moment**

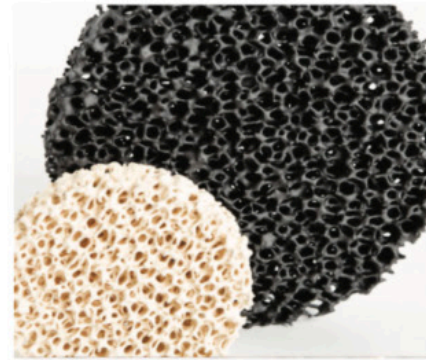
Material  
CMF  
Marketing campaign

**Outer layer**



**Leather-veg tan**

**Insulation**



**Ceramic foam**

**Inner layer**



**Terra Cotta**

**Proposal tech**



**Water Evaporation**



**copper**



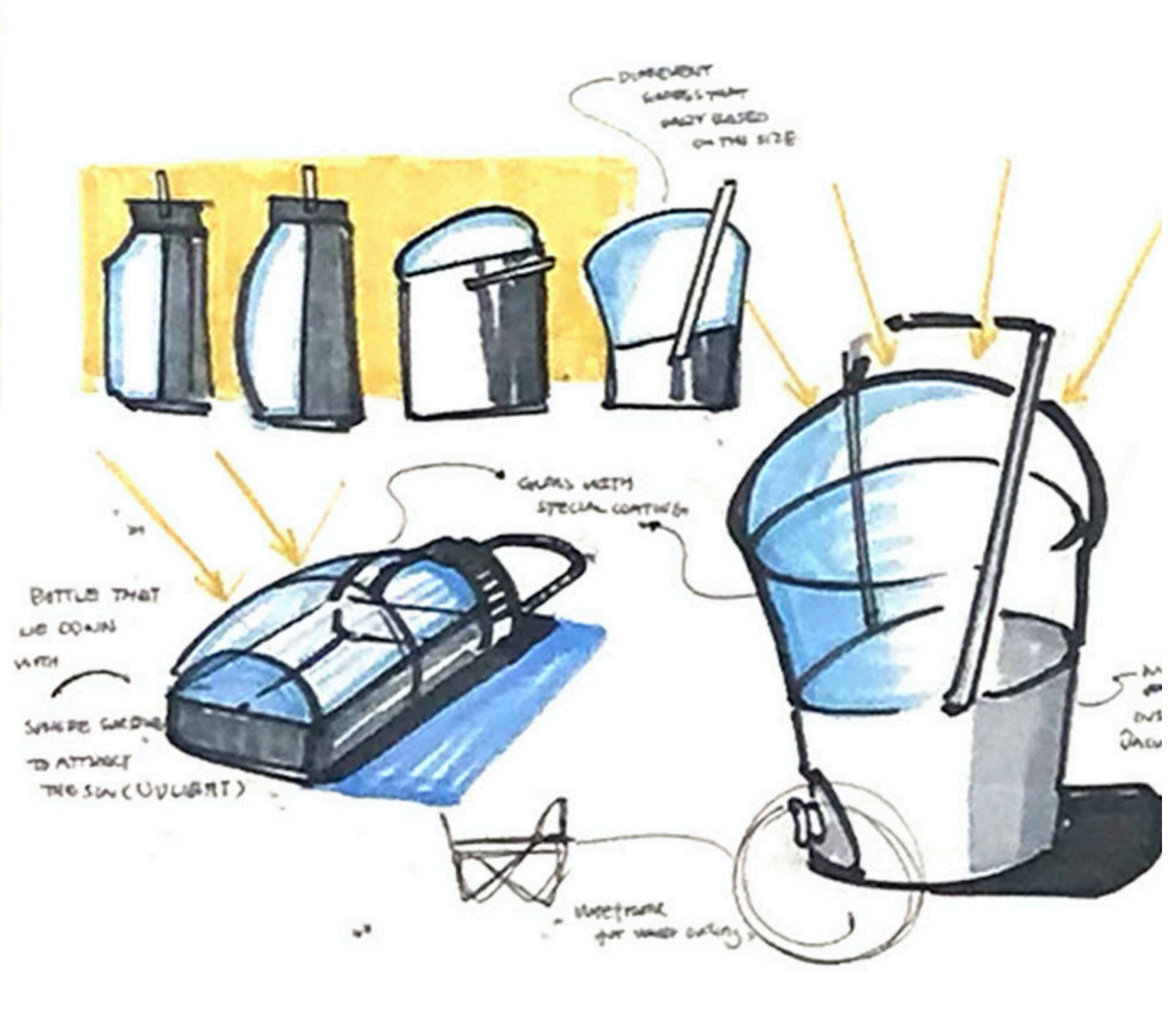
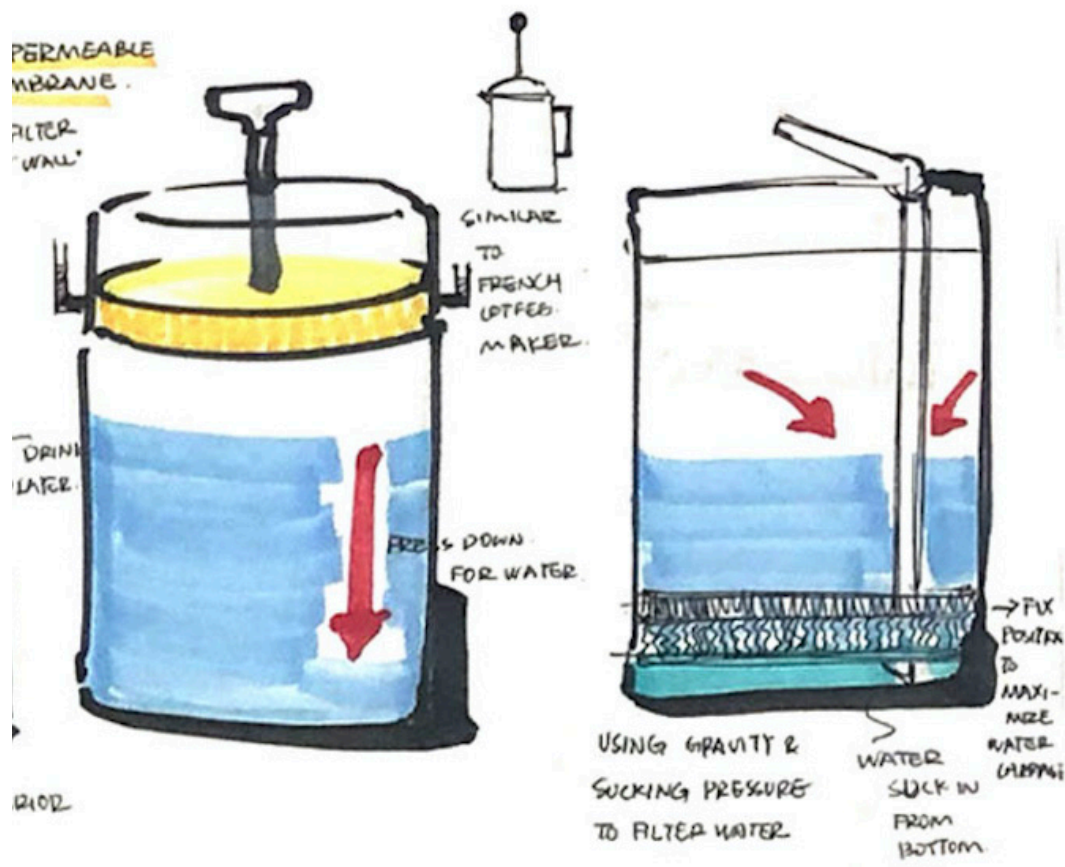
**Caborn Fabric Filter**

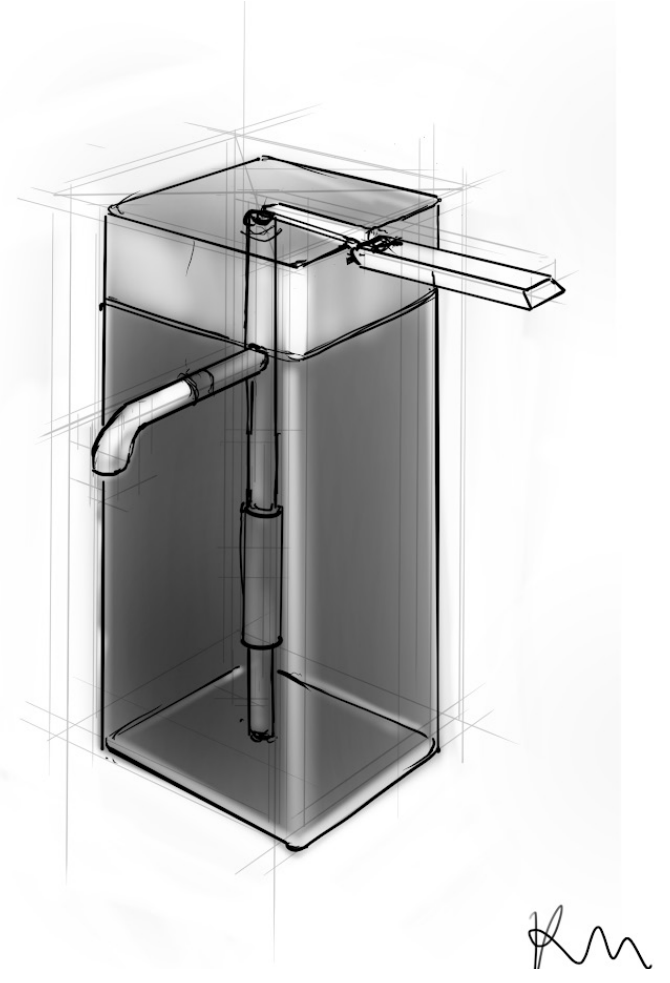
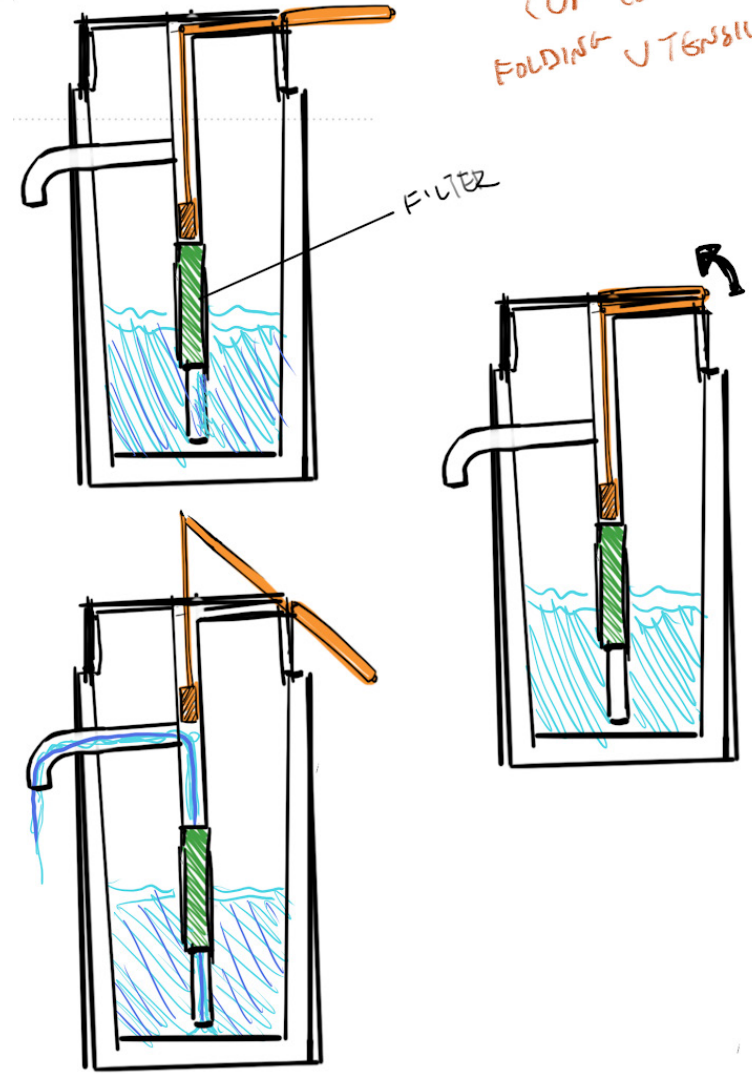
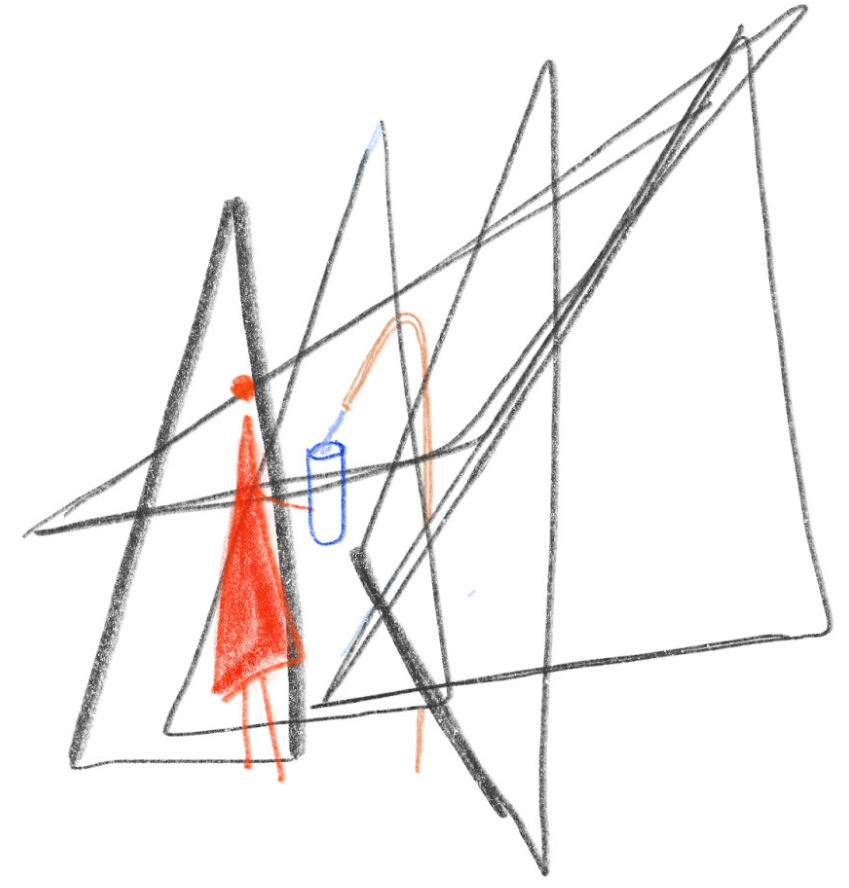
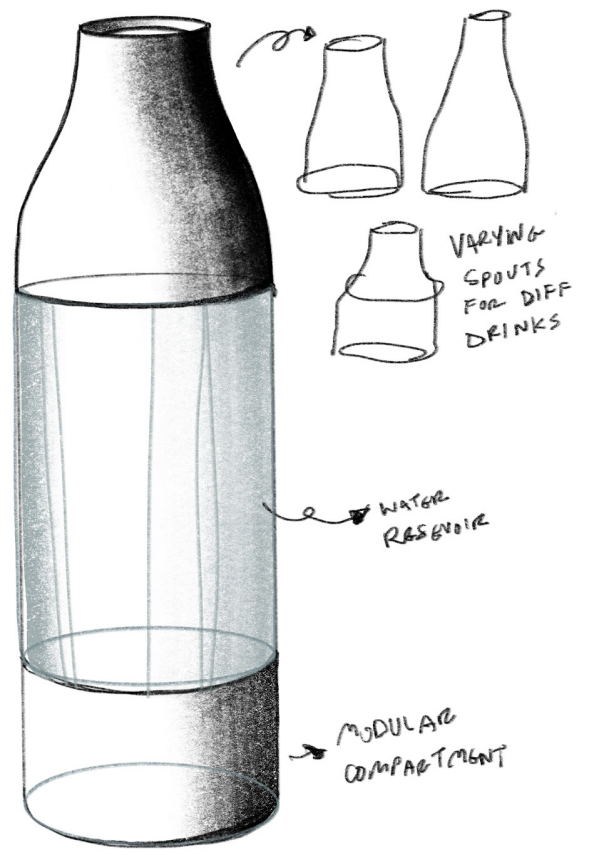
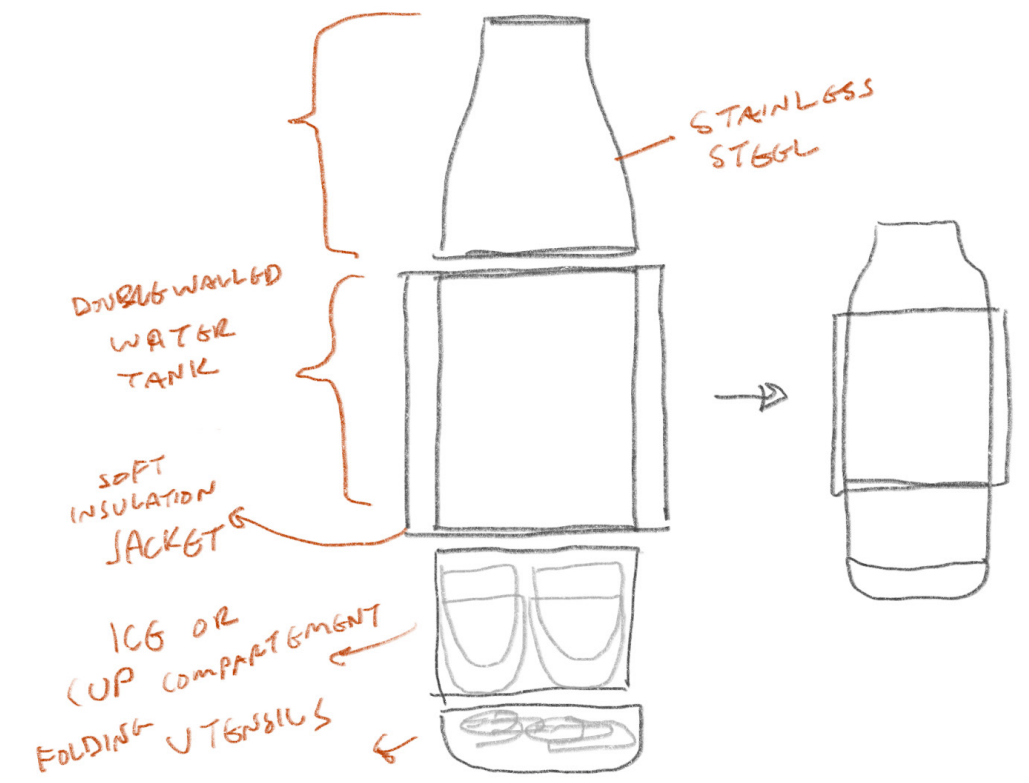
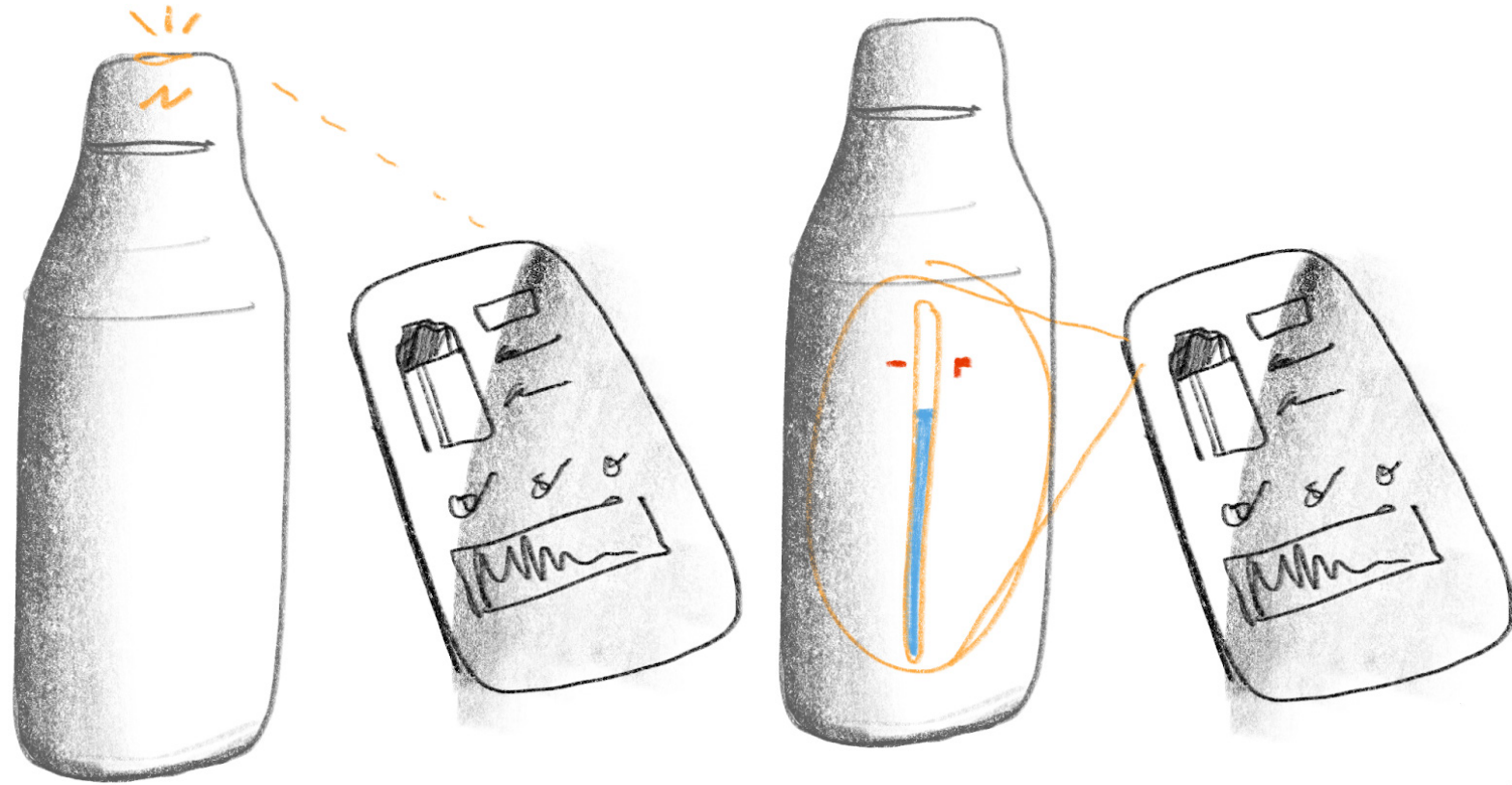


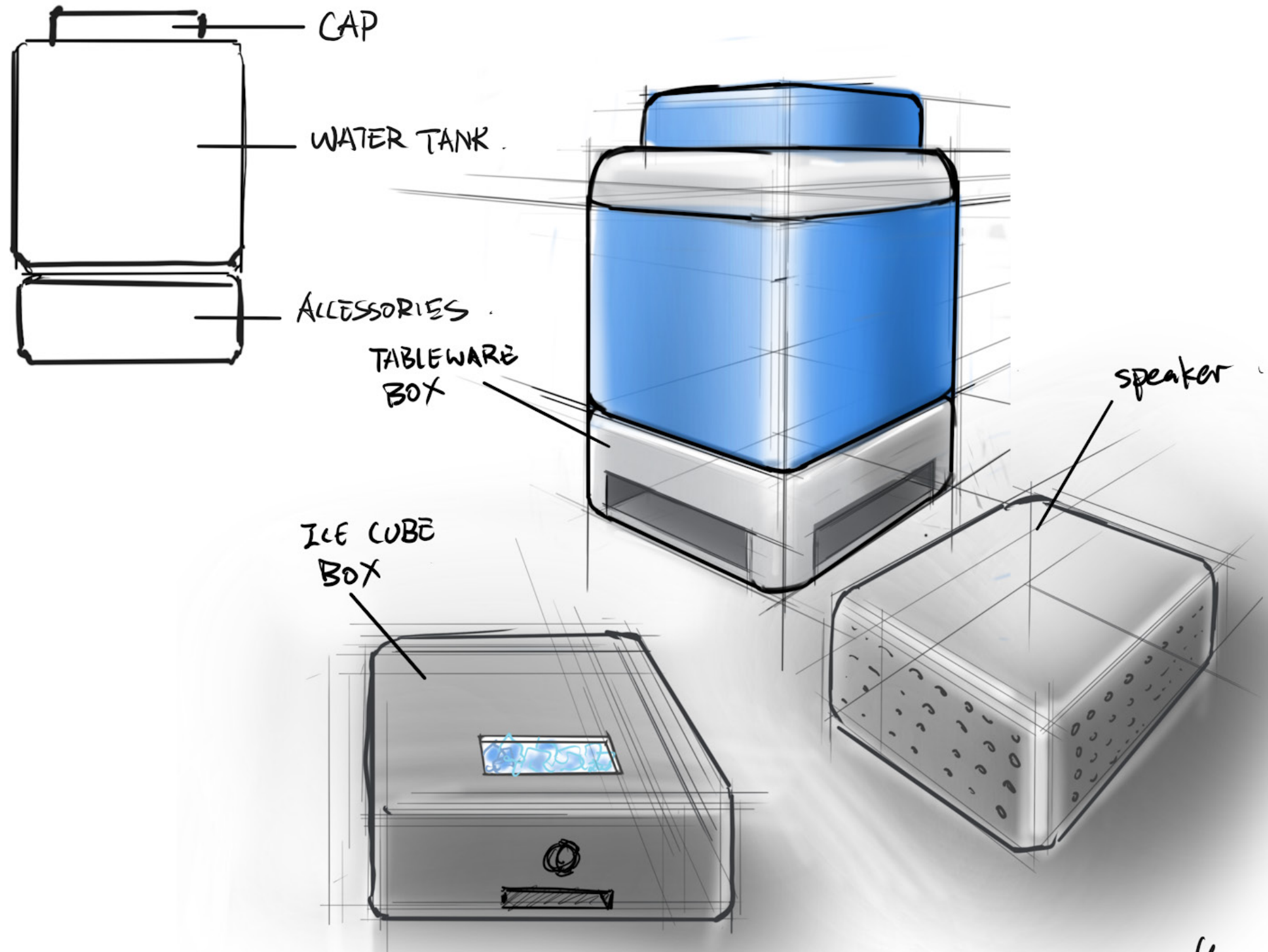
**Ceramics/Purple sand**



**Edible Material**







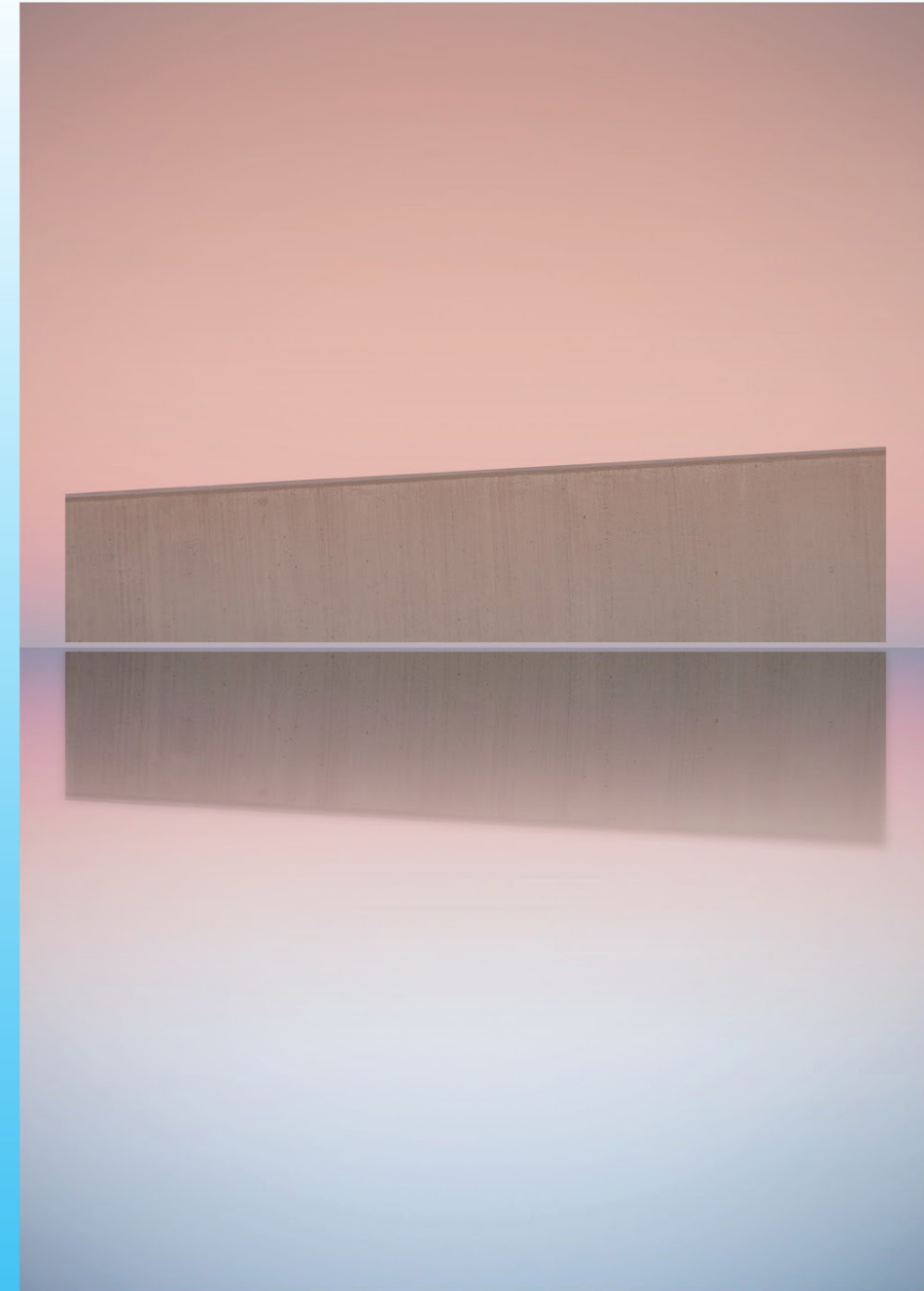
*Ken*

## graphic styles

### campaign posters for pure water installations of Coleman on national parks

The Outside is Calling  
Coleman x James Elliot

Redwood National Park  
09/17 - 12/20, 2025



The Outside is Calling  
Coleman x James Elliot

Redwood National Park  
09/17 - 12/20, 2025



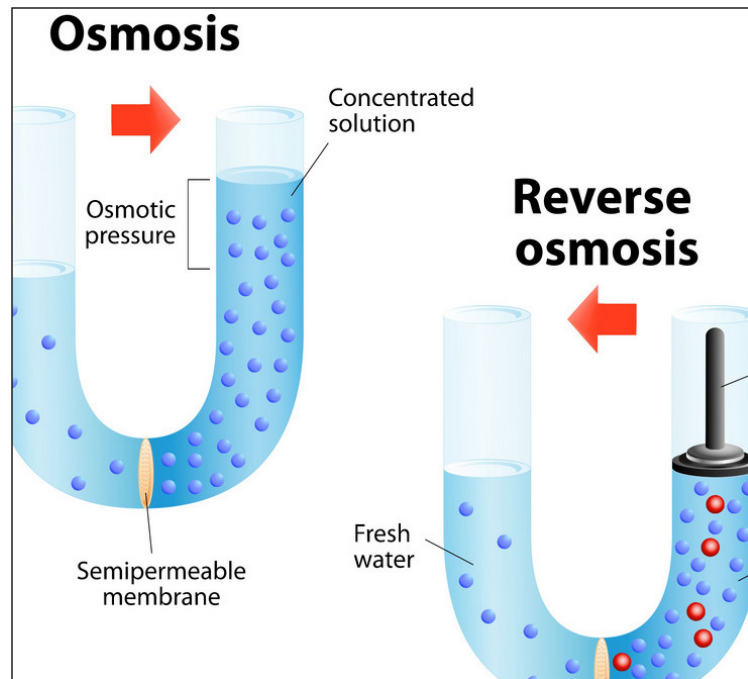
# Filtrations





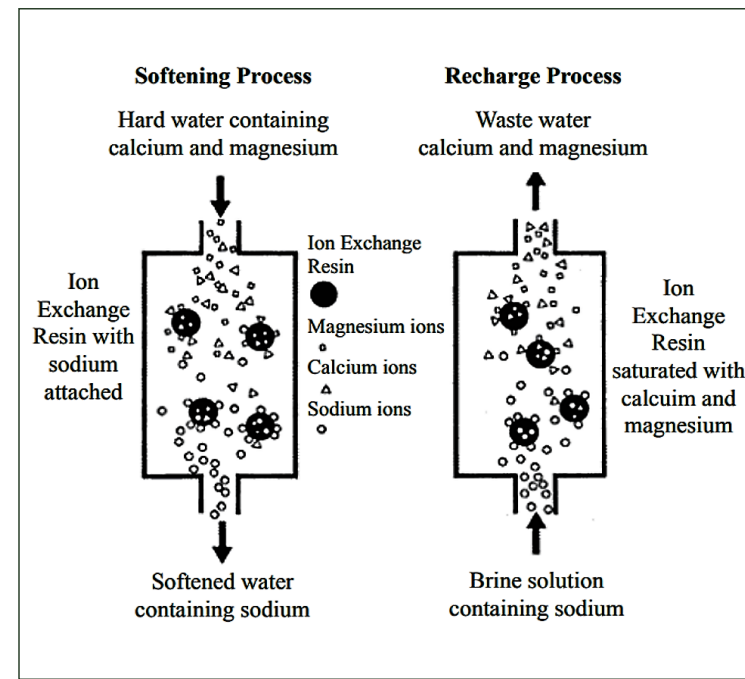
## reverse osmosis

Filters remove contaminants by using water pressure to force tap water through a semipermeable membrane. As the water passes through, contaminants like Lead, Mercury and Iron are left behind and flushed away. However, reverse osmosis will not remove some pesticides, solvents and metals such as Chlorine and Radon.



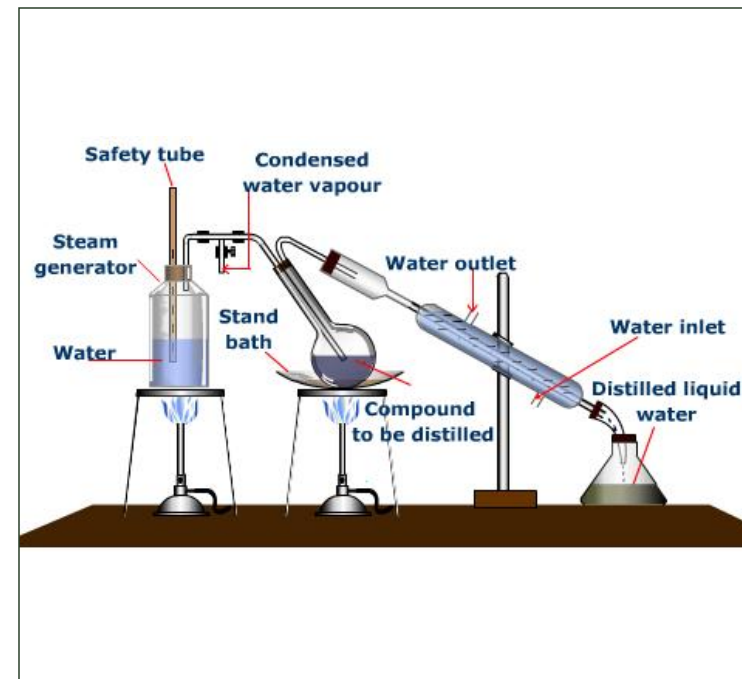
## ion exchange

Filters are particularly useful for softening hard water. It's a chemical process that essentially releases ions like sodium and exchanges them for unwanted ions (like heavy metals) in your water. The result is softer water with a more pleasant taste, however Ion exchange is not a great choice for people with low sodium diets since it raises the sodium content of your water.



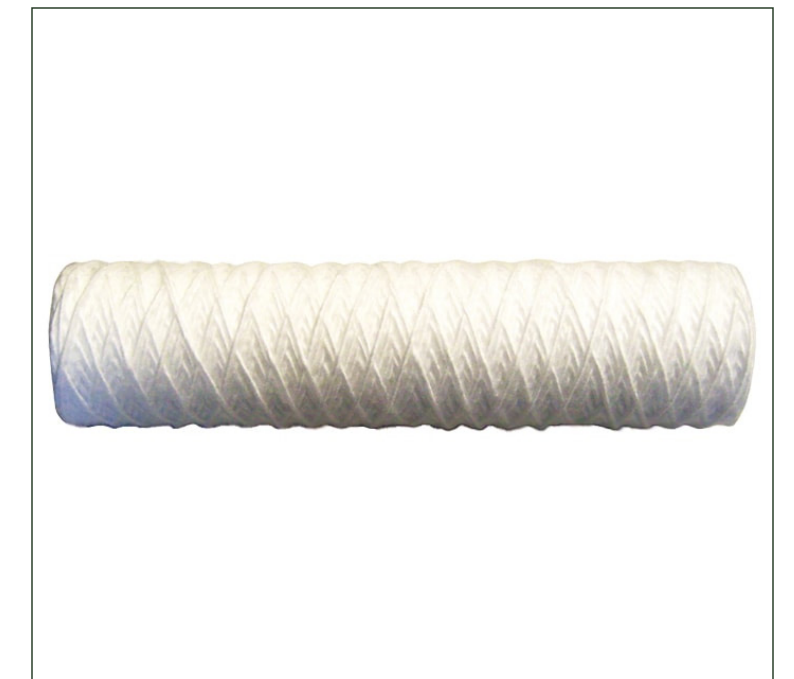
## steam distillation

Steam distillation is a natural process that involves heating water and cooling steam to remove contaminants. Most contaminants have a boiling point higher than water, so they're left behind after the water turns to steam. The steam is then collected and condensed back into water. One drawback to distillation is that it also removes beneficial natural minerals from water in the process.



## mechanical

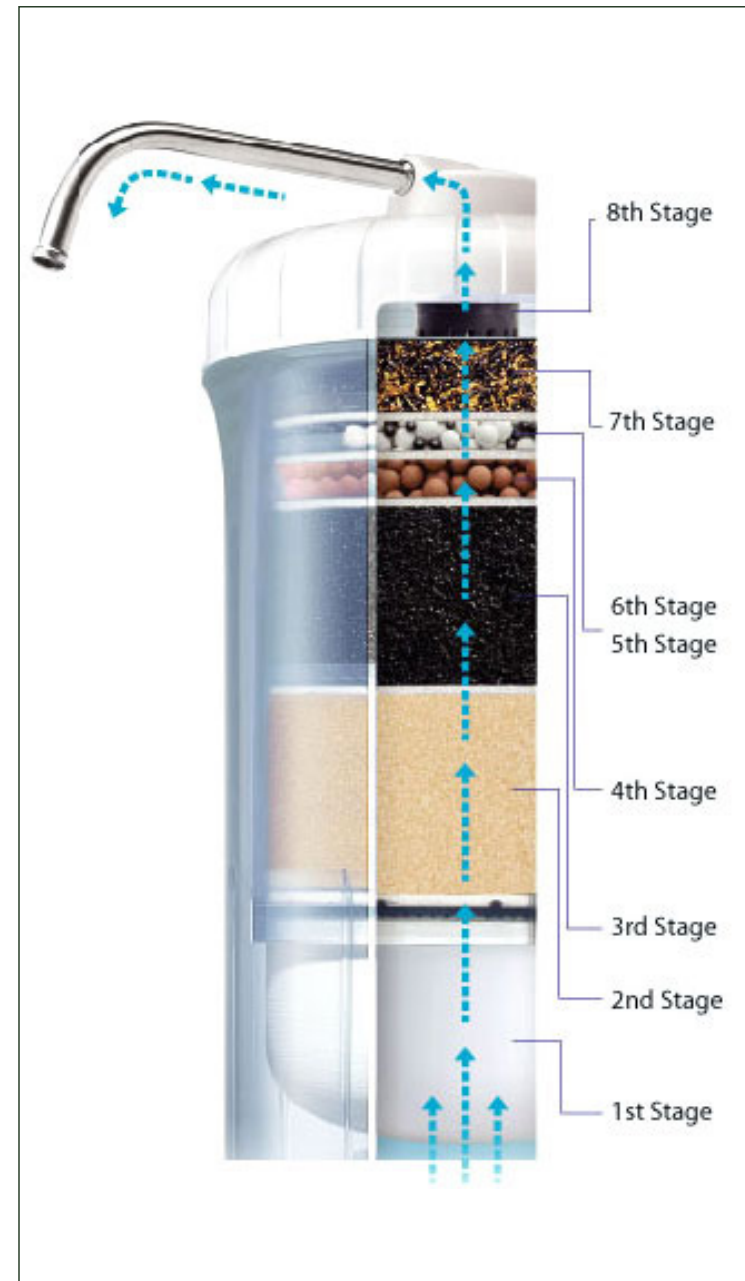
The basic idea of mechanical filtration is to physically remove sediment, dirt or any particles in the water using a barrier. Mechanical filters can be anything from a basic mesh that filters out large debris to a ceramic filter which has an extremely complex pore structure for ultra-fine filtration of pathogenic organisms.



A filter that utilises mechanical filtration will usually be given a micron rating which indicates how effective the filters are in terms of the size of the particles it is capable of removing.

## absorbtion

Absorption in water filters is most commonly carried out by carbon, which is highly effective at capturing water-borne contaminants. The reason carbon absorbs contaminants so readily is that it has a huge internal surface which is jam packed with nooks and crannies that can trap chemical impurities such as chlorine. A variety of different substances can be used to make carbon for filters including wood and coconut shell, with coconut shell filters being more effective but also more expensive.



## different stages

### 1 st Stage: Ceramic Filter

**Content :** Ceramic Filter with pore size of 0.2-0.5 microns

**Functions :** Filters out most harmful bacteria & viruses. Removes more than 99% of micro-particulate contaminants, sludge & rust

### 2 nd Stage: Ion Exchange Resins

**Content :** US NSF ANSI/NSF – 61 approved Ion Exchange Resins

**Functions :** Removes fluoride and adjusts the Calcium and Magnesium content to soften water for better taste

### 3 rd Stage: Activated Granular Carbon

**Content :** NSF ANSI/NSF – 42 & SGS approved Activated Granular Carbon

**Functions :** Absorbs chlorine, odours and colours

### 4 th Stage: Mineral Elements

**Content :** SGS approved 100% Natural Mineral Stones

**Functions :** Infuses water with ionic minerals and trace elements that are vital for health such as Iron, Magnesium, Zinc, Calcium, Sodium, Potassium, Manganese and more.

Makes water taste sweeter and increases the pH to a mild alkaline level to perfectly match the body's pH balance of 7.2 – 7.5. This helps to combat unhealthy acidity in the body.

### 5 th– 6 th Stage: Anion Minerals + EC3000 FIR Energy Beads

**Content :** Anion minerals from Japan

**Functions :** Make water taste sweeter and infuse water with negative ions to help neutralise and prevent free radical damage, enhance the immune system, and prevent ageing and oxidation.

Activate & energise water and break the molecules into small molecular clusters for optimal cell absorption.

### 7th Stage: KDF + Activated Granular Carbon

**Content :** NSF approved KDF – Kinetic Degradation Fluxion (USA NSF 61) (a zinc-copper compound)

**Functions :** Neutralises organic & inorganic chemicals, mercury, trichloroethylene (TCE), trihalomethane (THM), radioactive compounds and other heavy metals

**Content :** NSF Approved Activated Granular Carbon (Philippines NSF 42)

**Functions :** Inhibits harmful bacteria growth

Absorbs remaining chlorine, unpleasant odours, colours, and toxic substances.

### 8 th Stage: Magnetic Stones

**Content :** Magnetic Stones

**Functions :** Create a magnetic field to further break up the molecular clusters

Water has a certified NMR (Nuclear Magnetic Resonance Technology) reading of 46-48Hz, compared to the 128Hz of tap water, RO and mineral water. Bottled mineral water is between 90 and 100Hz.

## whole house water filters

A whole house water filter connects to the main water supply line within the house and filters all water throughout, including faucets, showers, washing machines and dishwashers.

## under sink filters

Installs below the sink and filters water before it reaches the faucet. Filters water going to a specific faucet. Filter cartridges tend to last longer than the faucet-mounted variety. May have multiple filter cartridges designed to remove specific types of contaminants.

## counter top water filters

Screws onto faucets so you can quickly filter large amounts of water without installing new plumbing. Hose attachment diverts water from your faucet through the filter and back to the tap. Easy to install but takes up countertop space.

## faucet mounted filters

Treats water as it passes through the faucet, improving it for drinking, cooking and washing. Require no plumbing connections. Economical and easy to install. Take up little space.



## water filter pitchers

Uses a carbon filter to reduce contaminants from water. Sizes range from around 8-cups to a gallon. Easily portable. Economical and easy to maintain. Take several minutes to filter water.



## refrigerator parts & filters

Provides filtered water for ice makers and in-door water dispensers in refrigerators. Some include an automatic shutoff valve for easy replacement. Use charcoal filters. Included in some new refrigerators.



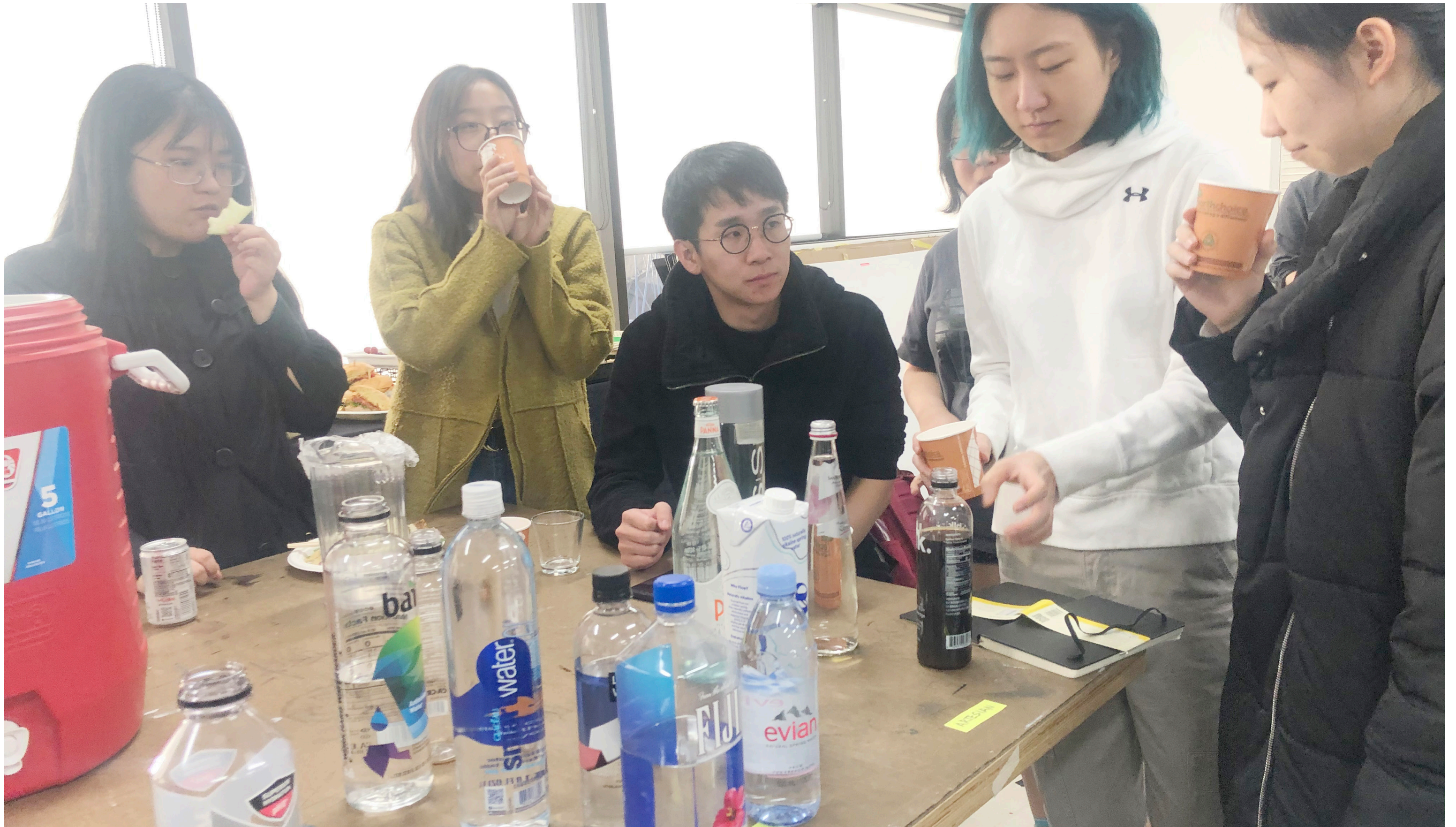
## shower filters

Reduces chlorine, bacteria and fungus in the shower head. Compact, flexible design installs easily in most showers.



# Water Tasting Fest







# Material Research





## aerogel



A flower is on a piece of aerogel which is suspended over a flame from a Bunsen burner. Aerogel has excellent insulating properties, and the flower is protected from the flame.

Source: wikipedia.org License: Public Domain

<https://www.cabotcorp.com/solutions/products-plus/aerogel>

## PET aerogel

Aerogel is a synthetic porous ultralight solid material derived from a gel, in which the liquid component of the gel has been replaced with a gas (during a supercritical drying process). Aerogels can be made from a variety of chemical compounds, but the base material for aerogel is usually silicon. Aerogel has a very low **thermal conductivity of 0.013 W/m·K**. Its density is also very low, about 150 kg/m<sup>3</sup>. These are remarkable thermal insulative properties. It must be noted, aerogels may have lower thermal conductivity than that of the gas (air has about 0.025 W/m·K) they contain. This is caused by the Knudsen effect, a reduction of thermal conductivity in gases when the size of the cavity encompassing the gas becomes comparable to the mean free path.

More than 80% of Aerogels are air. One inch thick aerogel insulation function is equivalent to 20-30 pieces ordinary glass.

Particles for infill and cavity applications  
Cabot's particulate aerogel is the lightest and best insulating solid in the world. Its free-flowing nature and exceptional hydrophobicity makes it an ideal insulator for bulk fill and cavity applications.



PET aerogel, made from recycled plastic bottles.

## aerogel blanket

Aerogel blankets incorporate aerogel particles into ultra-thin, flexible nonwovens with superior insulating properties. Thermal Wrap consists of aerogel granules within non-woven fibers that produce an extremely flexible, compressible, highly efficient insulation material. Less dusty than competing blankets, with a thermal conductivity that doesn't degrade, but improves with compression, Thermal Wrap can be used in a variety of applications. It is easily laminated to create infinite thicknesses or surfaces. They are particularly well-suited for applications that require a thin product that can be easily cut, rolled and shaped on the job site. Because they offer high insulation performance even when compressed, they are especially useful as a thermal break in places that otherwise conduct heat.



Potentially can be used for 20 years with nondegradable conductivity.

## mineral wools

Glass- and stone wool are produced from mineral fibres and are therefore often referred to as 'mineral wools'.

Stone wool can be recycled again and again into new stone wool.

## stone wool



Stone wool, also known as rock wool, is based on natural minerals present in large quantities throughout the earth, e.g. volcanic rock, typically basalt or dolomite. Next to raw materials, also recycled rock wool can be added to the process as well as slag residues from the metal industry. It combines mechanical resistance with good thermal performance, fire safety and high temperature suitability. Glass and stone wool are produced from mineral fibres and are therefore often referred to as 'mineral wools'. Mineral wool is a general name for fiber materials that are formed by spinning or drawing molten minerals. Stone wool is a furnace product of molten rock at a temperature of about 1600 °C, through which a stream of air or steam is blown. More advanced production techniques are based on spinning molten rock in high-speed spinning heads somewhat like the process used to produce cotton candy.

<https://www.nuclear-power.net/nuclear-engineering/heat-transfer/heat-losses/insulation-materials/stone-wool-rock-wool/>

## glass wool

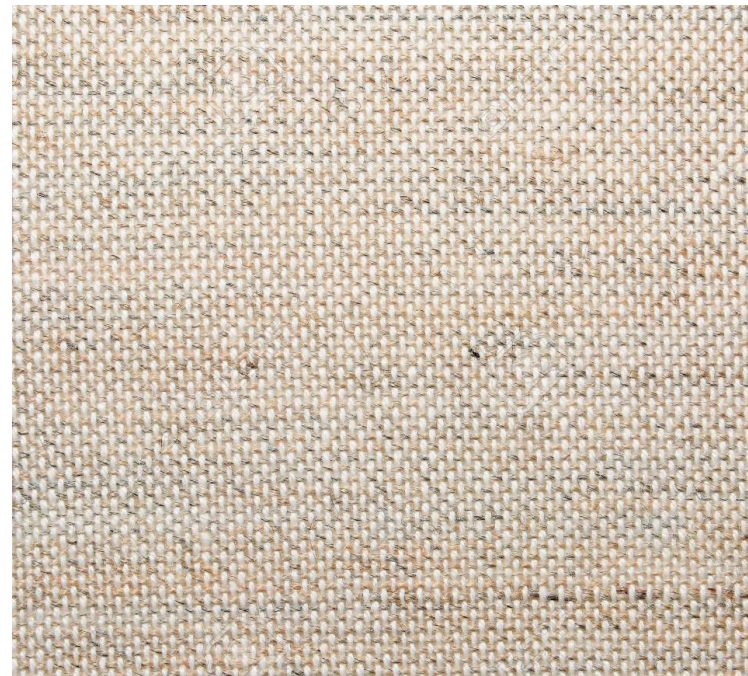
Glass wool (originally known also as fiberglass) is an insulating material made from fibres of glass arranged using a binder into a texture similar to wool. Glass wool and stone wool are produced from mineral fibres and are therefore often referred to as 'mineral wools'. Mineral wool is a general name for fiber materials that are formed by spinning or drawing molten minerals. Glass wool is a furnace product of molten glass at a temperature of about 1450 °C. From the melted glass, fibres are spun. This process is based on spinning molten glass in high-speed spinning heads somewhat like the process used to produce cotton candy. During the spinning of the glass fibres, a binding agent is injected. Glass wool is then produced in rolls or in slabs, with different thermal and mechanical properties. It may also be produced as a material that can be sprayed or applied in place, on the surface to be insulated.



<https://www.nuclear-power.net/nuclear-engineering/heat-transfer/heat-losses/insulation-materials/glass-wool/>

## linen

Linen has become a favorite eco-friendly staple recently, and for good reason. It's made from flax and has been lauded for hundreds of years due to its durability.



As a fabric it's breathable, durable, lightweight, absorbent, antimicrobial, moth-resistant, and cool (as in it lowers your body temperature in summer, as opposed to cotton). In terms of sustainability, it requires far less water than cotton and doesn't require any chemical fertilizers or pesticides. Bonus: It's biodegradable, too.

## hemp

As a fabric, hemp is breathable, warm, moisture-wicking, antibacterial, and can be easily blended. It's a very durable fabric that becomes softer with washing and wear, and it's biodegradable at the end of its life. Beyond that, the hemp plant doesn't require a lot of water, and it can produce two to three times more fiber per acre than cotton.



## bamboo

Bamboo is a natural fiber made from the bamboo plant. The fabric is silky in texture, incredibly durable, and has moisture-wicking properties. More than that, bamboo requires very little water and no fertilizers or pesticides to grow and is biodegradable.



However, it has a dark side. The process of turning bamboo into fabric is very chemically intensive, and it produces a fair amount of waste. This makes bamboo much less sustainable than you might think at first glance.

## silk or AMSilk

Silk made from spiders and silkworms are found to be some of the strongest bio-based materials found today.

An ultra-strong, lightweight material called Biosteel, produced by biotech company AMSilk. The material, which forms the shoe's upper, is created using the same proteins that spiders use to make their silk



A filter that utilises mechanical filtration will usually be given a micron rating which indicates how effective the filters are in terms of the size of the particles it is capable of removing.

## wood cellulose

Spider silk has long been considered to be the strongest biobased material, and there have been many (successful) attempts in mimicking this material. However, a group of researchers from various institutions have now developed an even stronger bio-based material, which consists of nano-sized cellulose fibres.

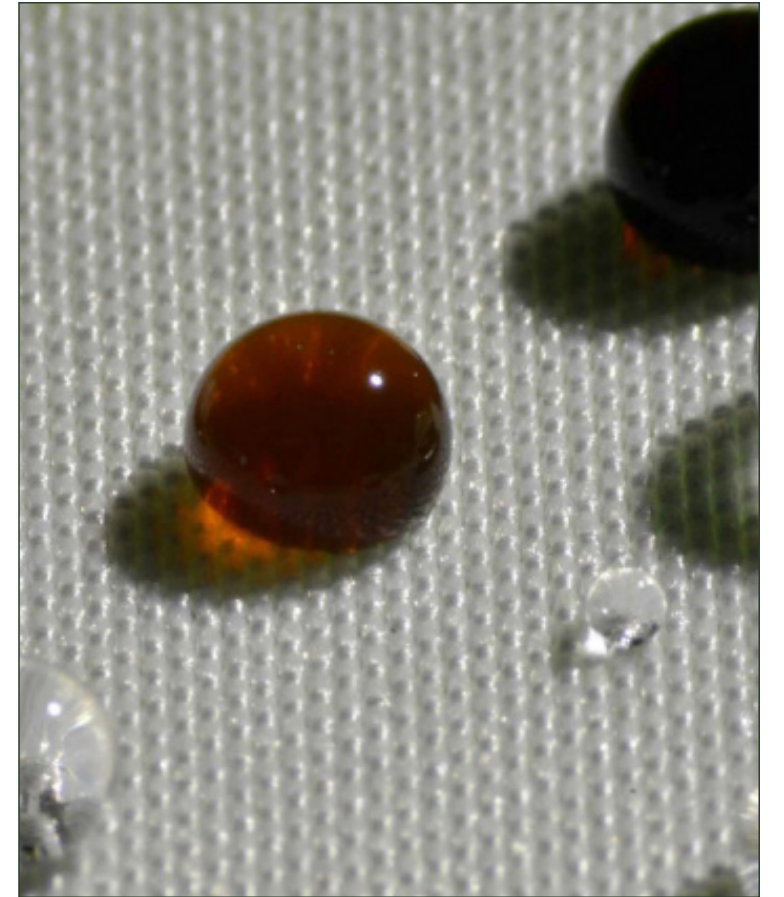
The key is for a material to be both eco friendly and energy efficient.



## Adding water repellency to natural fabrics: MIT developed iCVD

Fabrics that resist water are essential for everything from rainwear to military tents, but conventional water-repellent coatings have been shown to persist in the environment and accumulate in our bodies, and so are likely to be phased out for safety reasons. That leaves a big gap to be filled if researchers can find safe substitutes.

What this MIT team did, Varanasi explains, is to combine two things: a shorter-chain polymer that, by itself, confers some hydrophobic properties and has been enhanced with some extra chemical processing; and a different coating process, called initiated chemical vapor deposition (iCVD), which was developed in recent years by co-author Karen Gleason and her co-workers.



# recycled fabrics

## econyl



The ECONYL, created by Italian firm Aquafil, uses synthetic waste such as industrial plastic, waste fabric and fishing nets from oceans, recycles and regenerates them into a new nylon yarn that is exactly the same quality as virgin nylon.

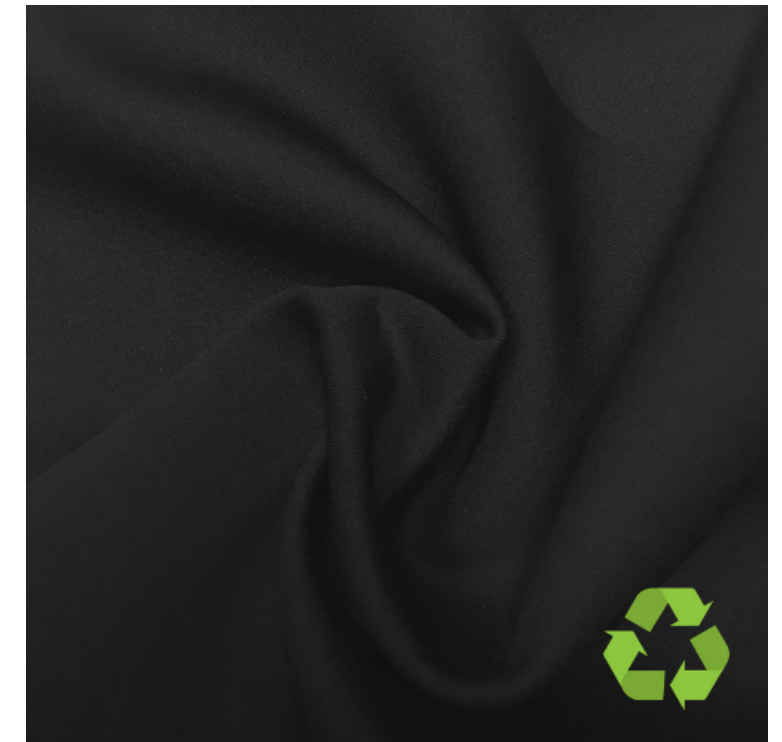


The water-repellent NET-PACKS and NET-BAGS are made of ECONYL® regenerated nylon.

<https://goodonyou.eco/material-guide-econyl/>

## repreve® recycled fabric

These Repreve® Eco-Friendly fabrics are perfect for Prepared-for-Print (PFP) sublimation, swimwear and performance wear use. Repreve® is one of the most certified, earth-friendly fibers available in the world. These high-quality recycled polyester knits are made from plastic bottles and post-consumer materials! Recycled Polyester is just as strong as virgin polyester, so don't let the word "recycled" fool you!



Black Endurance Heavy Repreve® Recycled Polyester Spandex

72% Repreve® Recycled Polyester, 28% Spandex

<https://pinecrestfabrics.com/product-category/wholesale-fabrics/recycled-fabrics/repreve-eco-friendly-fabrics/>

## portable fabric water container

### NatureHike





The NatureHike Cordura is a lightweight portable water container that folds away for easy transport when hiking or camping. Perfect to wash off or to give yourself a foot bath after a day full of hiking or maybe you need to transport some water from one spot to another, the foldable water container can hold over 2 gallons of water while folding down to fit into a small pouch so you can easily have enough room for it instead of hauling around a big bucket. Made from quick drying and tear resistant Cordura fabric, the foldable water container is not necessarily for cooking but can withstand water of up to 194 degrees Fahrenheit.

### Freegrace




This great folding and collapsible bucket is the absolute best water container you could use when you're away from home.



material	Raw material	Manufacture process	finishes	transportation	recyclable/repair	cost
 <b>Stainless Steel</b>	Iron 11% chromium  <b>13/lb</b>	Steel rolling <b>1.2/lb</b> Steel extrusion <b>1.1/lb</b> Vacuum insulation	Chrome and can be painted in to any color  <b>0.01/sq. ft.</b>	Truck, Sea  Car 0.35/p.-mi Train 0.06/p.-mi Plane 0.18~.28/p.-mi	Both	\$3.5/pound
 <b>Bio-Plastic/ Recycled plastic</b>	pastic  <b>1.3~1.6/lb*</b>	Injection molding Rotary molding  <b>0.72~1.4/lb</b>	Different Color  <b>0.2/lb</b>	Truck, Sea  Car 0.35/p.-mi Train 0.06/p.-mi Plane 0.18~.28/p.-mi	Both	\$50/ton

Okala Score  
\*primary





material	Raw material	Manufacture process	finishes	transportation	recyclable/repair	cost
 Econyl - recycled nylon	fishnets, carpet and industrial plastic  11/lb*	Depolymerization Rendering Extrusion Loading Stretching Drawing Spinning Weaving  0.2/lb	coating  13/lb	Truck, Sea, train  Car 0.35/p.-mi Train 0.06/p.-mi Plane 0.18~.28/p.-mi	recyclable	Similar to nylon
 Aerogel-recycled	Silica  --	Vacuum  --	Paste Solid blanket  --	Truck, Sea, train  Car 0.35/p.-mi Train 0.06/p.-mi Plane 0.18~.28/p.-mi	recyclable	\$23000/lb
 Mycelium (rigid part)	Fungus  13/lb	Grow  13/lb	Vacuum  13/lb	Truck, Sea, train  Car 0.35/p.-mi Train 0.06/p.-mi Plane 0.18~.28/p.-mi	Vacuum	\$8/m2

Okala Score  
\*primary




Outer shell  
 Insulation /tech  
 liner



material	Raw material	Manufacture process	finishes	transportation	recyclable/repair	cost
 <p>Bioplastic-Algae resin</p>	algae	Injection molding Rotary molding	--	Truck, Sea, train	Recyclable	\$50 per barrel
	--	13/lb	13/lb	Car 0.35/p.-mi Train 0.06/p.-mi Plane 0.18~.28/p.-mi		
 <p>Silicon Rubber</p>	Silicone carbon, hydrogen, and oxygen	Injection molding	glossy/matte	Truck, Sea, train	Recyclable	20/lb  \$1.80 per pound for ABS plastic.
	1.7/lb	--	--	Car 0.35/p.-mi Train 0.06/p.-mi Plane 0.18~.28/p.-mi		

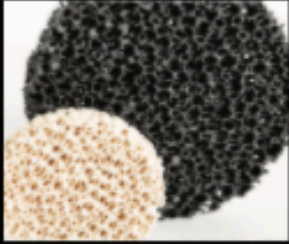

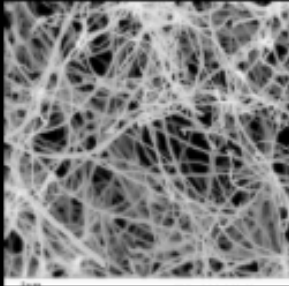
Okala Score  
\*primary

Outer shell  
 Insulation /tech  
 liner

material	Raw material	Manufacture process	finishes	transportation	recyclable/repair	cost
 copper	Copper Oxide and sulfide ores: mined-purify-conc entration 120/lb 5/lb*	Vacuum insulation Double wall Hammered Copper sheet rolling 1.5/lb	Vcopper  --	Truck, Sea, train Car 0.35/p.-mi Train 0.06/p.-mi Plane 0.18~.28/p.-mi	both	\$2/lb
 Terra Cotta	Clay 1.6/lb	Clay comes from the ground, usually in areas where streams or rivers once flowed --	--	Truck, Sea, train Extra protection for impact Car 0.35/p.-mi Train 0.06/p.-mi Plane 0.18~.28/p.-mi	both	\$11/lb
 Ceramics/ Purple sand	Sand & clay 1.6/lb	molding/ handcraft firing --	glaze  --	Truck, Sea, train Extra protection for impact Car 0.35/p.-mi Train 0.06/p.-mi Plane 0.18~.28/p.-mi	yes/ no	\$11/lb

Okala Score  
\*Secondary



material	Raw material	Manufacture process	finishes	transportation	recyclable/repair	cost
 <p>Ceramic foam</p>	ceramics  1.6/lb	impregnating open-cell polymer foams internally with ceramic slurry and then firing in a kiln  --	--  --	Truck, Sea, train  Car 0.35/p.-mi Train 0.06/p.-mi Plane 0.18~.28/p.-mi	Vacuum	Vacuum
 <p>Carbon Fabric Filter</p>	Vacuum  8.9/lb	Vacuum  --	--  --	Vacuum  Car 0.35/p.-mi Train 0.06/p.-mi Plane 0.18~.28/p.-mi	Vacuum	20/yard
 <p>Nano fiber</p>	natural polymer, recycled PETs  --	filtration  --	--  --	Sea, truck, train  Car 0.35/p.-mi Train 0.06/p.-mi Plane 0.18~.28/p.-mi	Some recyclable	

Okala Score  
\*primary

Outer shell  
 Insulation /tech  
 liner

# Visual Design Language





COLEMAN CIRCULAR

Coleman Circular is a sub brand of Coleman creating circular economy focused products that enhance longevity and sustainability.

typeface

neue  
unica

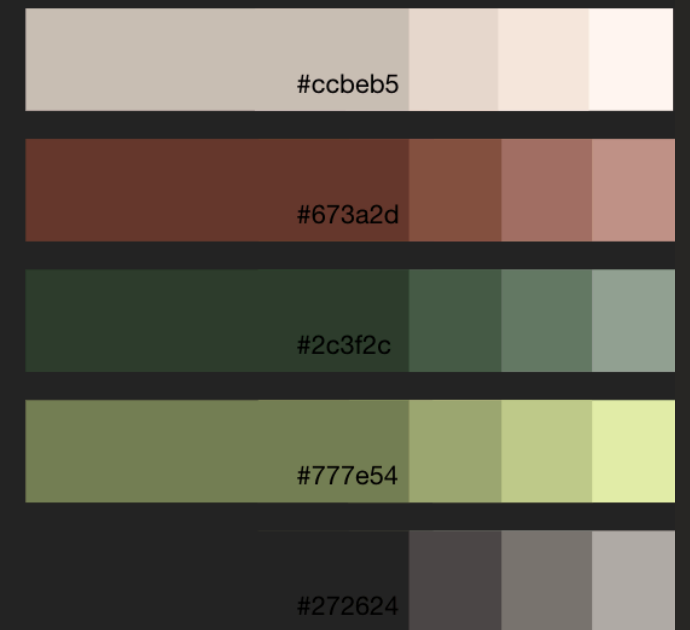
Frutiger

How can Coleman lead the path?

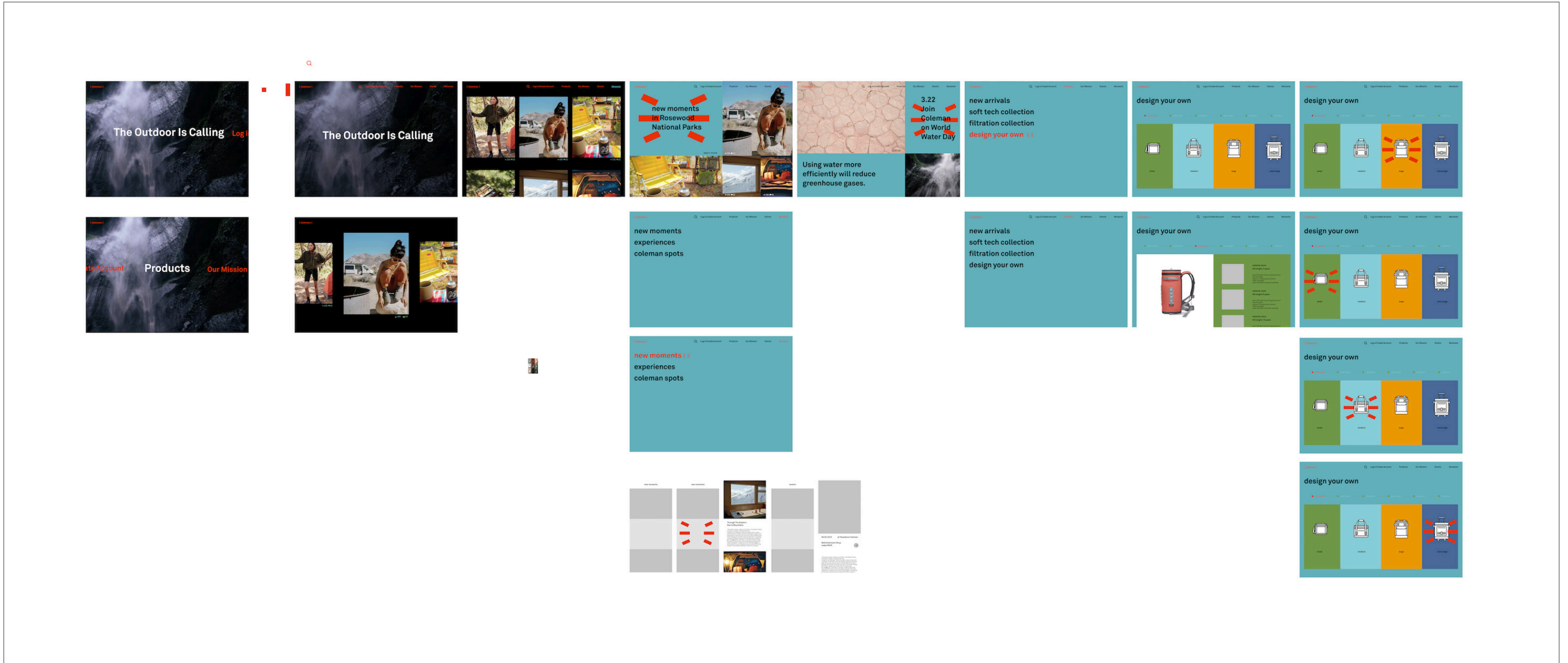
You get to choose your add on features depend on your need. Design your own bottle is also available with made to order offer.



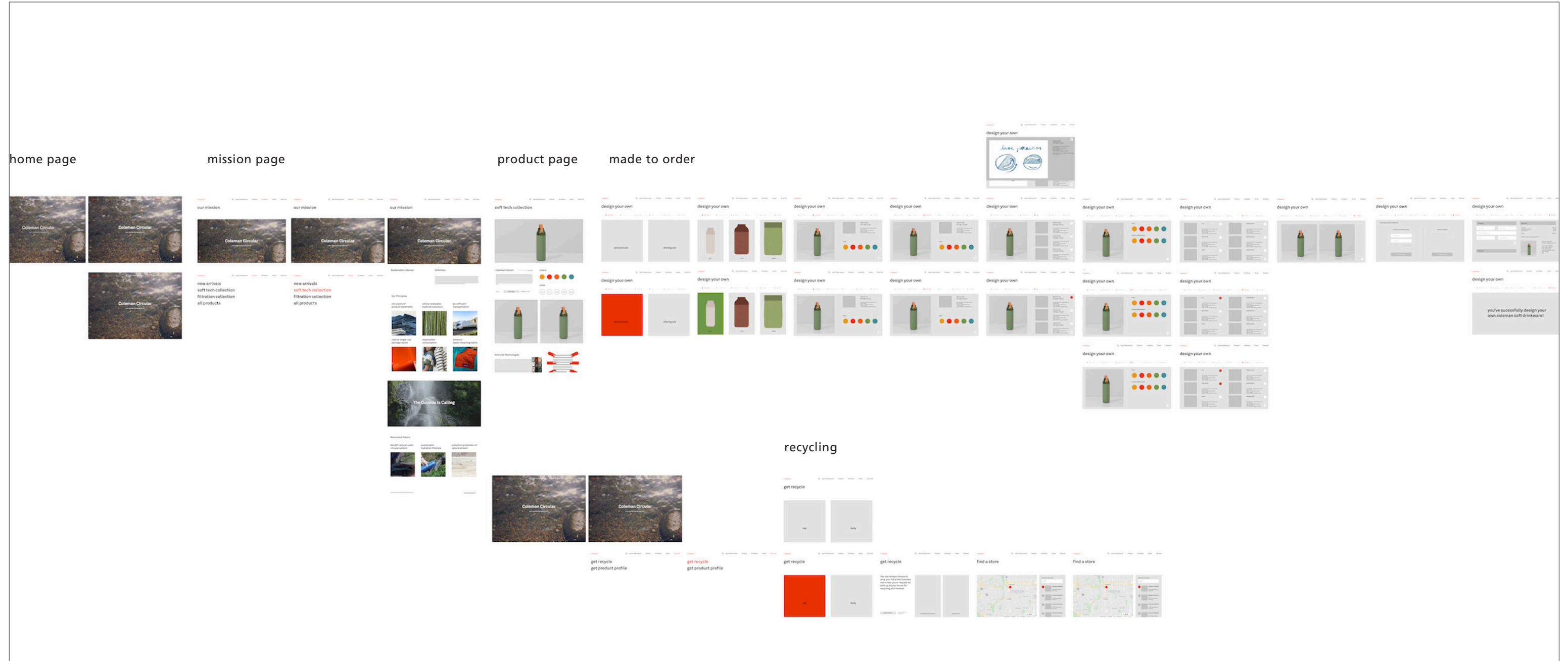
colors derived from nature and earth



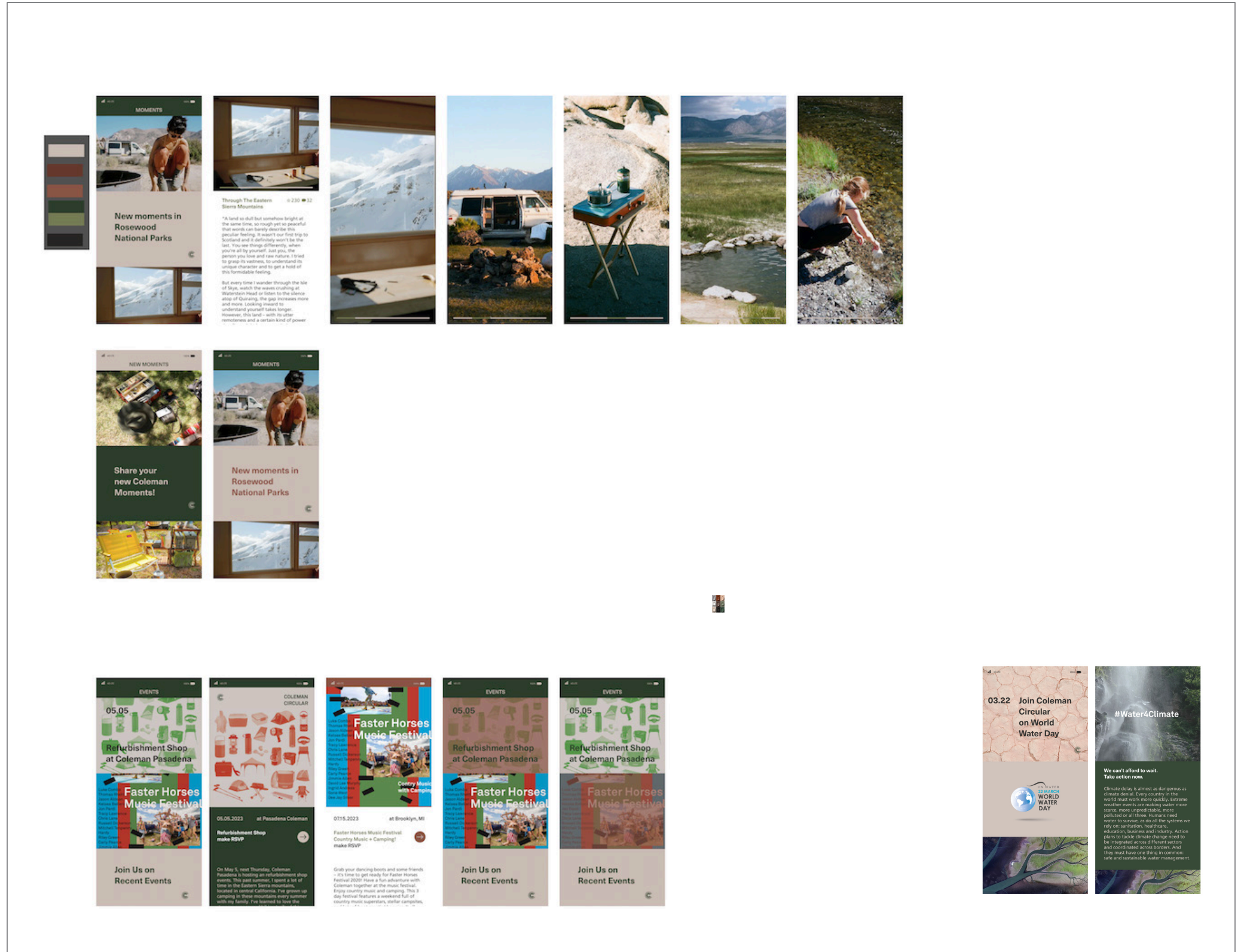
# website version 1



# website version 2

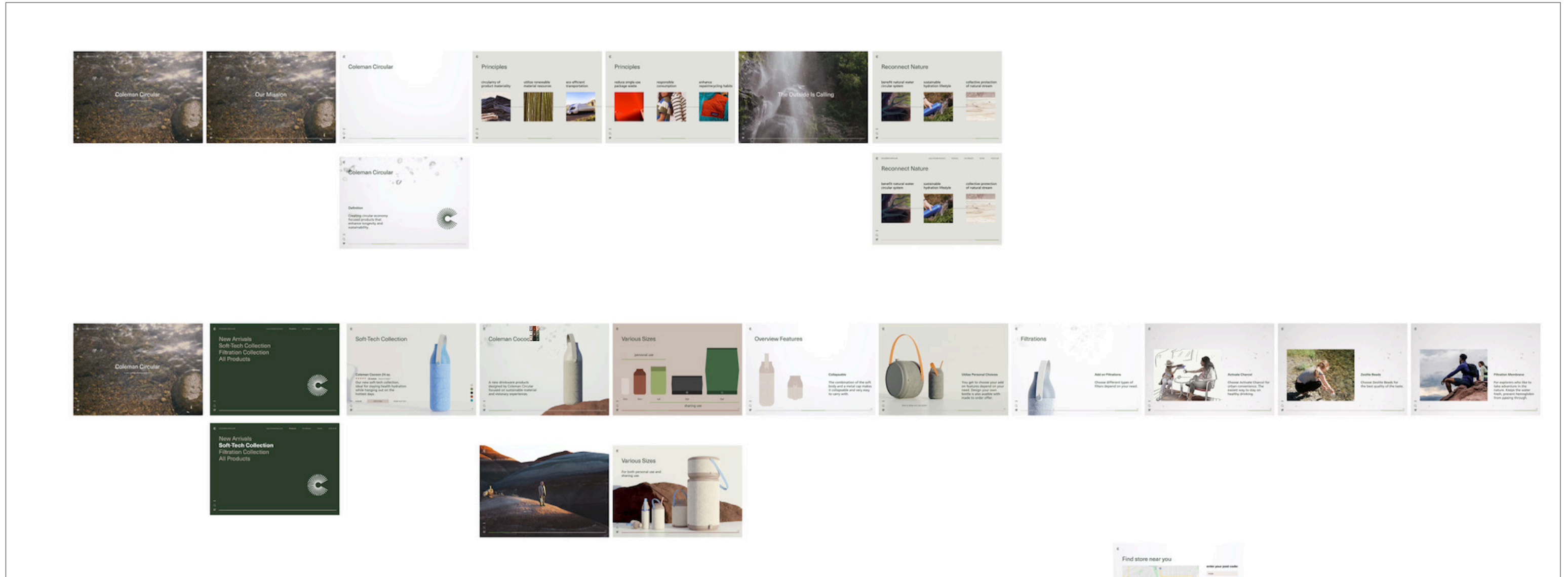


# app interface

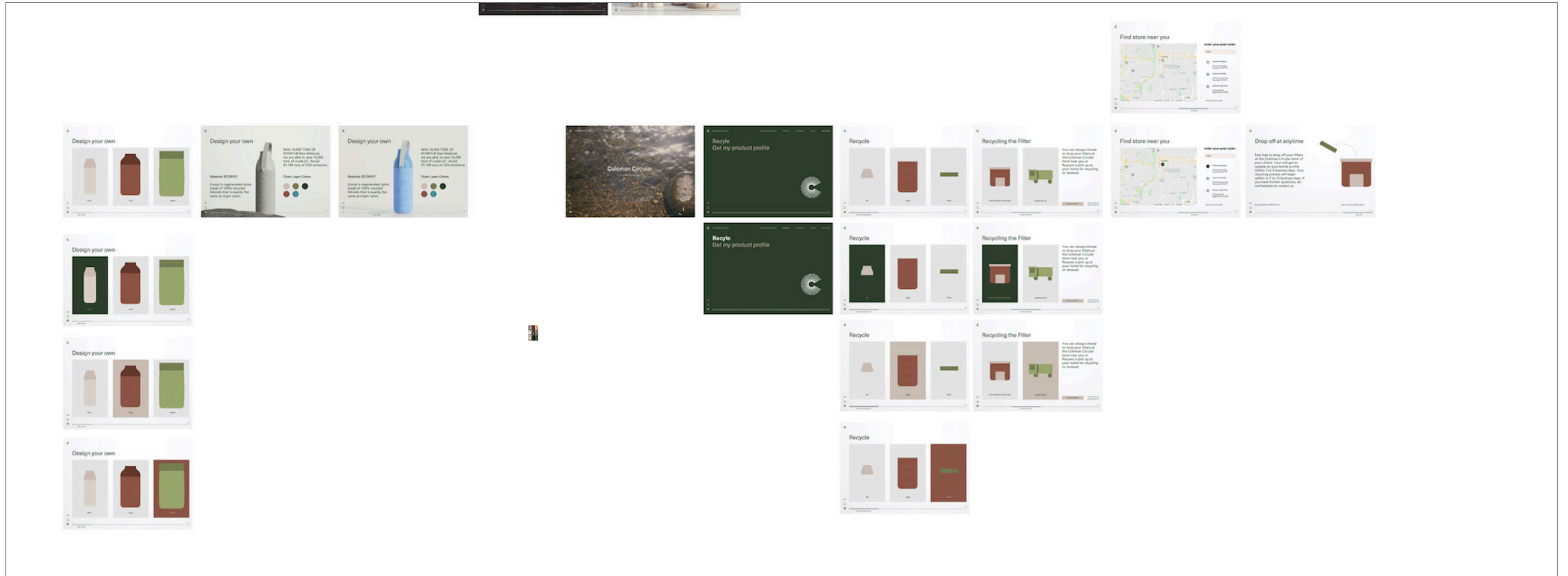




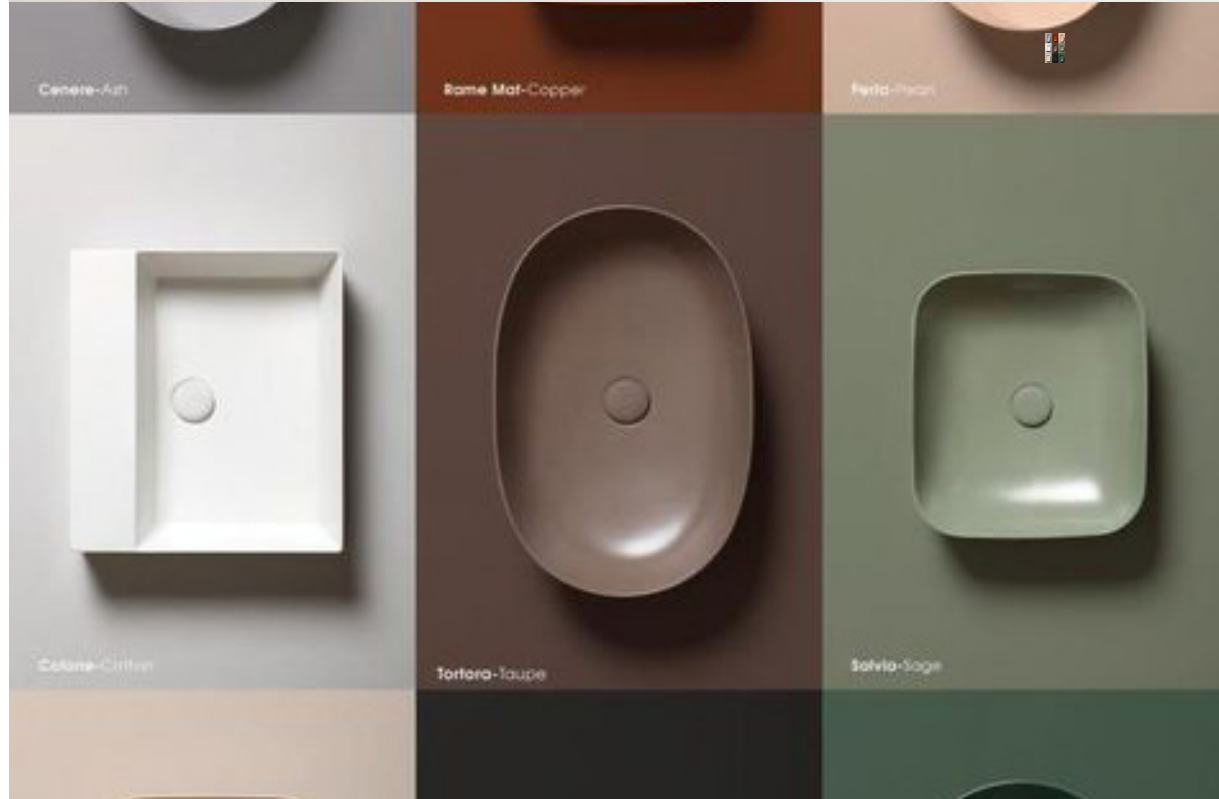
# website final design

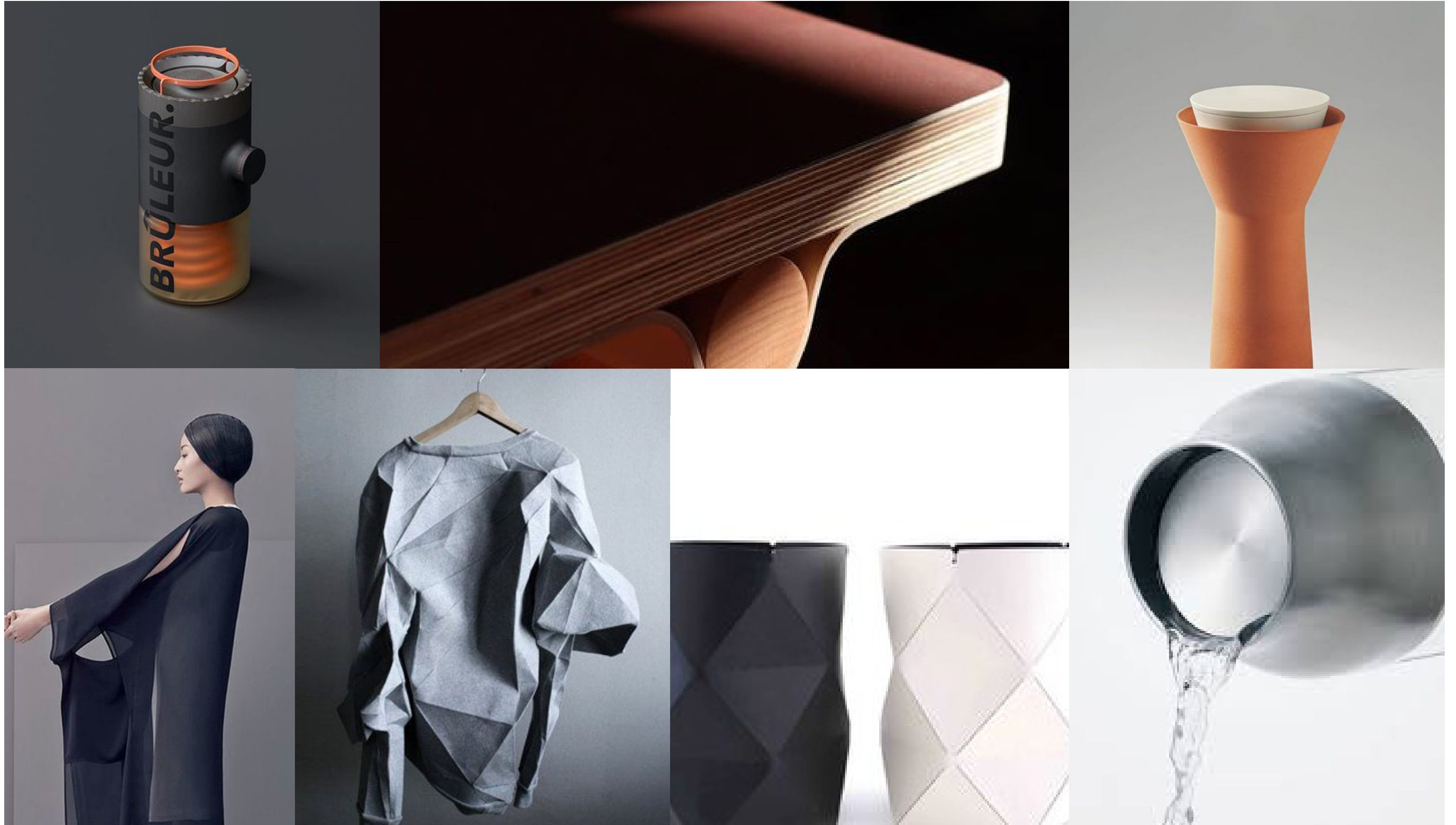


# website final design







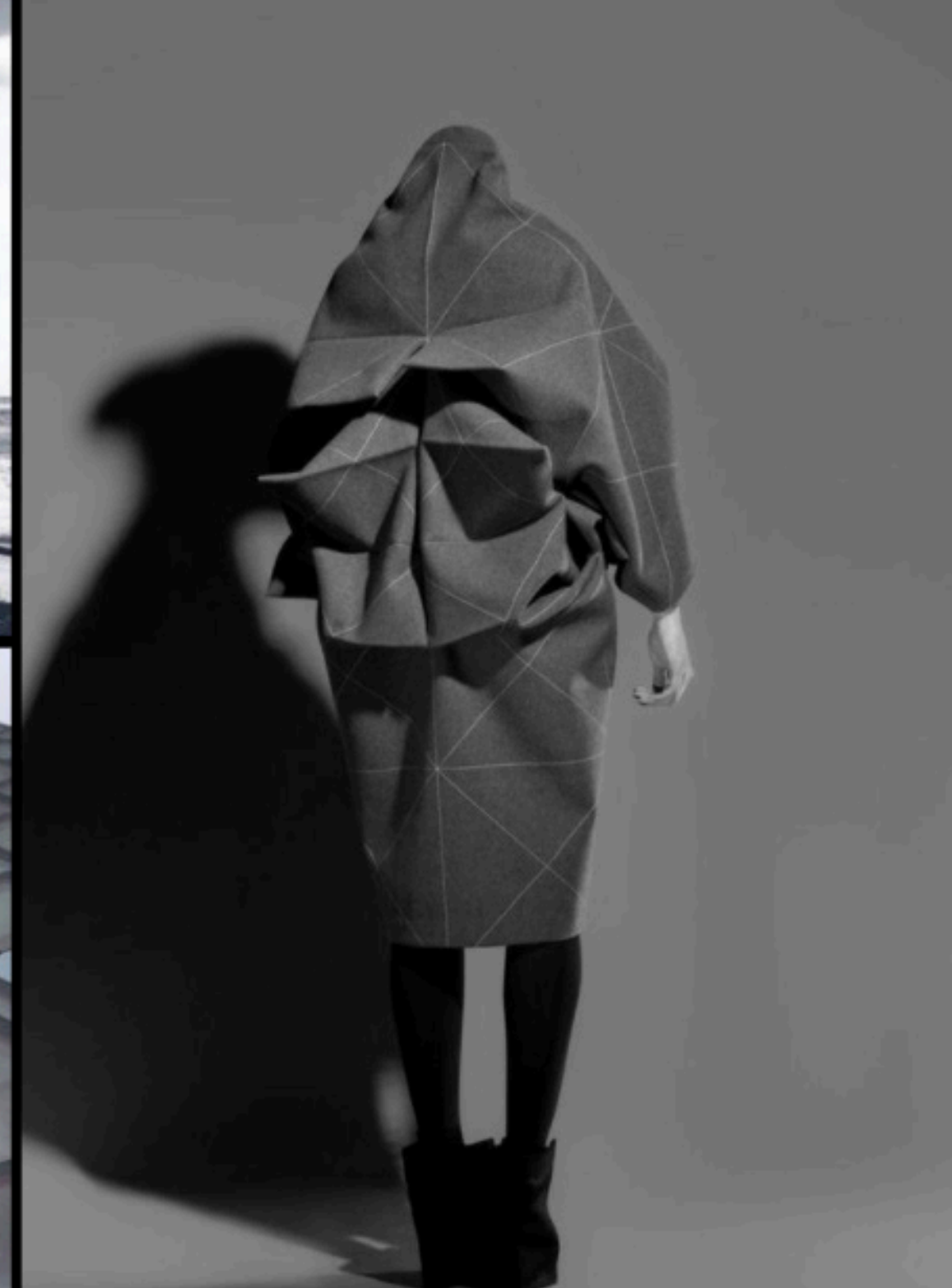
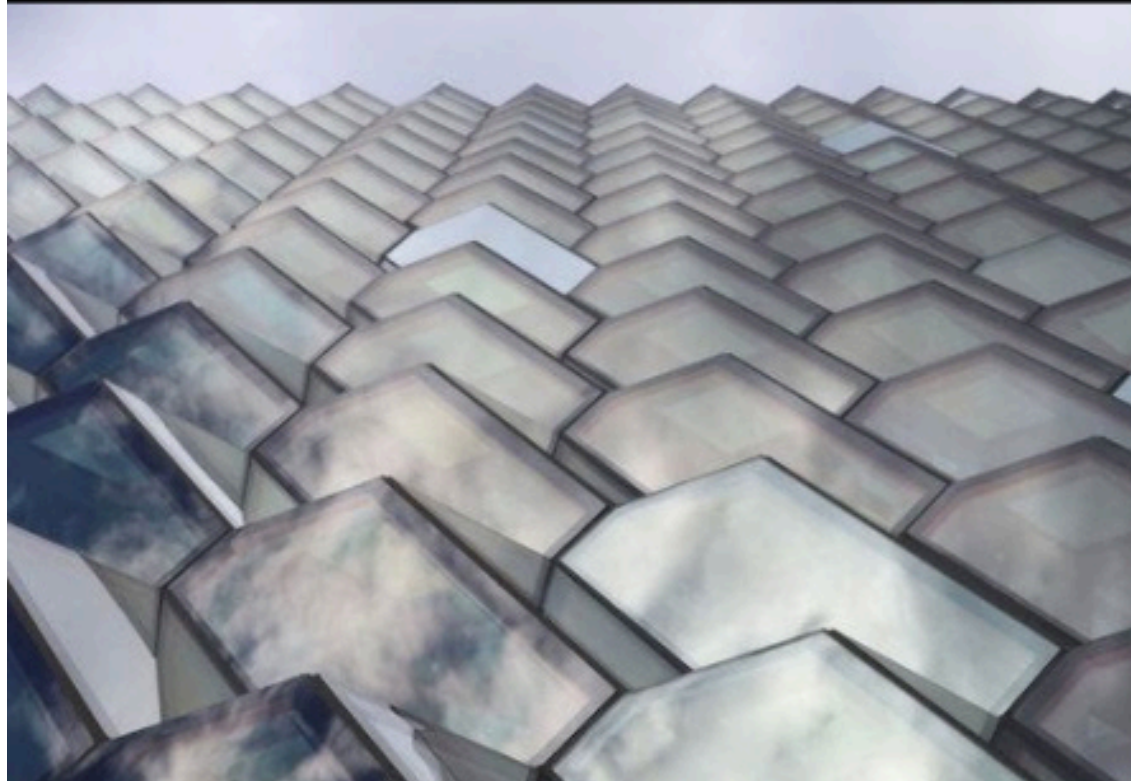


**What if we learn how a  
cocoon is formed in order  
to generate 3D knitted soft  
bodies for our coolers?**



**What if we learn from the  
crystalline structure of  
basalt towers to construct  
a strong, self supporting  
soft cooler.**







**Final Product**



personal use



24 oz.



64 oz.

both



1 gal.

sharing use

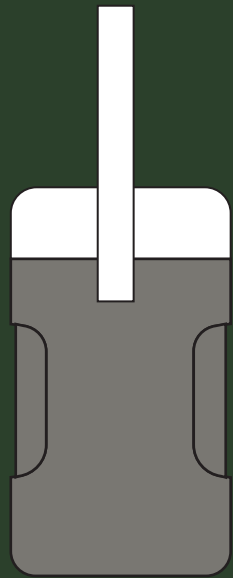


2 gal.



5 gal.

## Original OKALA impact score

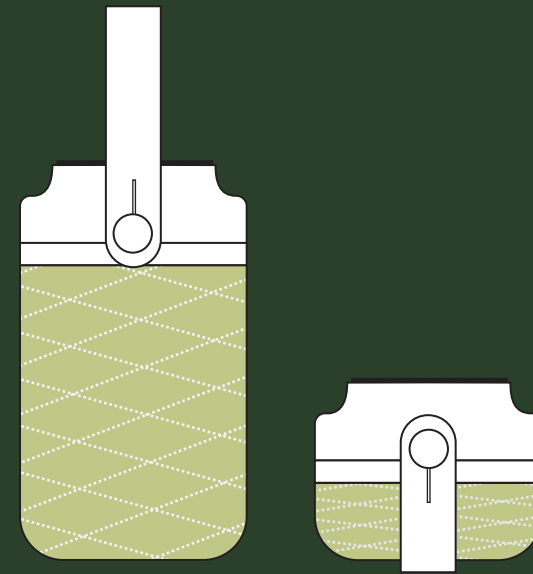


**5.77**  
Total Impact / Lifetime

**17520 hours ( 2years )**  
Product Life

**$3.29 \times 10^{-4}$**   
Total Impact / Hour (For 2  
Year Lifetime)

## New OKALA impact score



**14.32**  
Total Impact / Lifetime

**105120 hours ( 12years )**  
Product Life

**$1.36 \times 10^{-4}$**   
Total Impact / Hour (For 2  
Year Lifetime)

# LCA Process Tree

