

JOURNEY THROUGH THE LIFE-CYCLE OF COSMETICS

part of **GreenGate Methodological Toolkit₂**

Created within the project GreenGate₂.

GreenGate₂ project (reg. n. 2023-2-CZ01-KA220-YOU-000174554) was co-funded by the Erasmus+ programme of the European Union.

Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA).

Neither the European Union nor EACEA can be held responsible for them.

Partners:



Journey through the life-cycle of cosmetics

INTRO

Ever wondered where your favorite perfume comes from? From the mining of raw ingredients to the moment you toss the empty bottle, every cosmetic product has a hidden story and it affects more people, animals and places than you think!

In this eye-opening activity, we'll trace the entire life cycle of cosmetics - from extraction and production to consumption and waste. Along the way, we'll uncover the real impact on workers, communities, and the environment.

Aim: Think critically and realise the consequences of our daily choices and the impact of the products we use on our health, the environment, other people and animals.

Time: 45 – 60 minutes

Place: Indoors

Tools: ▶ a set of pictures and texts for each group (in Appendix 1)
▶ flipchart
▶ sticker dots or markers for voting

Note: In this activity, sensitive topics are discussed. The problems described in the texts are only examples and do not include all the problems that occur within a life-cycle of cosmetic products.

Some texts have been based on texts from activity *Stories behind our cosmetics* in Toolkit GreenGate 1.

MOTIVATION

To get into the topic, show the participants this video: The Story of Cosmetics <https://www.youtube.com/watch?v=pfq000AFIi8>.

(It is sufficient to watch till min 5:20, after that the legislation in the USA is discussed, if there is interest, more about legislation in the EU can be found here: <https://green-gate.eu/blog/good-to-know/your-beauty-care-in-numbers/>).

Now invite the participants to:

- *Everyone please think about how many cosmetic and personal care products you use per day.*

After 2 minutes continue:

- *Now we're going to move a little bit. Let's form a line based on the number of products each of you use, starting from the most to the least. We will create a queue and we have a time limit of 2 minutes.*

Participants can talk during the activity. The time limit is intended to increase group dynamics. Once the participants are lined up, divide them into 4 groups according to how they stand next to each other in the line.

CORE

Give each group one set of pictures from Appendix 1. Explain that each set shows problems related to one phase of the life cycle of a cosmetic product. A simplified life cycle has the following four phases:

1. resource extraction,
2. production,
3. consumption,
4. disposal and discharge.

The task of the groups will be to discuss what problems they think the images represent and at which stage of the product's life cycle these problems may occur. Give them a time limit (max. 5 min).

When the time has elapsed, give each group a set of texts from Appendix 1 related to the pictures they received. Each set focuses on one stage of the product life cycle and the problems associated with it:

- 1. Extraction of resources (Group 1. - Set of images and texts 1.)** - child labour, deforestation caused by palm oil monoculture, destruction of the environment caused by crude oil extraction.
- 2. Production (Group 2. - Set of images and texts 2.)** - water use and pollution, animal testing, harmful ingredients used in cosmetics.
- 3. Consumption (Group 3. - Set of images and texts 3.)** - greenwashing, chemicals entering the body, chemicals released into the environment.
- 4. Disposal and discharge (Group 4. - Set of images and texts 4.)** - waste from packaging, chemicals in wastewater treatment plants, microplastics into the environment.

The task of the group is to read the texts, connect them with the pictures and then present the 3 problems to everyone.

Set up a flip-chart, where each group can stick their pictures and write 2-3 key words describing the problem.

CONCLUSION

Each participant gets 3 sticker dots. The sticker dots represent a voting system. Each participant should place a sticker dot to a problem that they see as the most problematic and they would like to discuss it further.

According to the time left, select 3 or 4 problems that received the most dots and lead a discussion with all the participants.

Discussion:

- How could we solve these problems that you assessed as most problematic?
- What is our role?
- Can we as customers do something?

Brainstorm possible solutions to the problems together. Recommendations and suggestions can be found in the Appendix 2.





Appendix 1 PICTURES

Set 1.



Set 2.



Prosaia Radiant Glow
serum vitamin C, 30 ml

-2 Health Impact

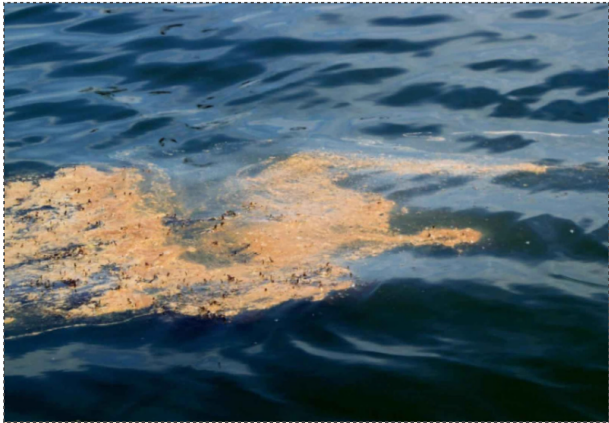
-2 Environmental Impact

INGREDIENTS
Overall rating

BHT	-2
Dimethicone	-2

Scan Search Menu

Set 3.



Fresh
Natural
NATURALLY
GOOD

Set 4.





TEXTS:

Set 1. Extraction of resources

Child Labour

One of the key ingredients in makeup, like eyeshadow, face powder, lipstick, and body gloss, is a mineral called mica. Most mica comes from Madagascar and India, where child labor is often used in the mines. Kids work in dangerous conditions to collect the shiny mineral that gives makeup its sparkle.

"Felicia is a 13-year-old girl who works in a sorting company in Amboasary. She lives with her mother and eight siblings. She explained that she has never attended school. In the sorting company where she works, she does all the sorting tasks adult workers engage in as well. In addition, just like them, she complains about the harshness of her tasks. From Felicia's statements, it is clear that accidentally hurting oneself comes with the job: "Sometimes, we hit the mica but it's our fingers that receive the blow" or "Every day we hit the mica and our nails are all damaged".

Like the other children in the group, she is not in good health; she coughs a lot and talks about her deplorable nutritional situation. Very often, she leaves early to work at the company on an empty stomach and can only eat at night if she can find something to eat. During the day she drinks water to suppress the feeling of hunger: 'If we do not have any food, we only drink water'. As she does not go to school, she works from Monday to Sunday, without a rest, from 7 a.m. to 3 p.m. and from 6 p.m. to 10 p.m. "pajem to isté vodo."

Felicia is conscious of the harsh reality of her life and is aware of the fact that things may never improve for her."

Sources:

<https://www.datocms-assets.com/22233/1623490704-child-labour-in-madagascars-mica-sector-terre-des-hommes.pdf>

Deforestation caused by palm oil monoculture

Palm oil is everywhere, it's in about half of the packaged stuff you see at the store. Think chocolate, pizza, shampoo, deodorant, toothpaste, and even lipstick. But there's a big problem: growing palm oil means cutting down massive amounts of forests. Every hour, the world loses up to 300 football fields of trees to make space for palm plantations. This destroys the homes of endangered animals like orangutans, Sumatran tigers, and rhinos, pushing them closer to extinction.

"When We Lost the Forest, We Lost Everything. Before our lives were simple, not rich, but enough. Since oil palm came, there is more suffering. I can't feed my family. I have a baby. I must put food on the table every day... Every day I must figure out how to do this."

- Leni, May 2018

"A decade and a half ago, lush forests with evergreen fruit-bearing rambutan trees surrounded the home of Leni, a 43-year-old woman and mother of two, in Indonesia. Today, they have little land to farm and no forest in which to forage after the land was cleared to make way for an oil palm plantation."

Sources:

<https://www.wwf.org.uk/updates/8-things-know-about-palm-oil>

<https://earth.org/how-palm-oil-contributes-to-environmental-destruction/>

<https://www.hrw.org/report/2019/09/23/when-we-lost-forest-we-lost-everything/oil-palm-plantations-and-rights-violations>

Destruction of the environment caused by crude oil extraction

Crude oil is the raw material from which petroleum products are derived, including gasoline for cars and mineral oil. It might sound surprising, but mineral oil is in tons of beauty products like face creams, foundations, makeup removers, wipes, and even lip balms. The problem? Extracting oil is terrible for the environment. It can lead to pollution, destruction of nature, and even be connected to war, displacement, and political conflicts.

Almost every day, Udengs Eradiri is informed of another oil spill in Bayelsa state, in the Niger Delta. "You just need to take a tour to understand the magnitude of the environmental abuse," he adds. "[Bayelsa] used to be green, you could go to farm or fish."

In Bayelsa and other regions, communities have been hit by an environmental disaster. Approximately 40 million litres of oil are spilled annually throughout the Niger Delta, polluting the air, land, and water. Out of Bayelsa's roughly 2 million residents, around 75% depend on fishing or farming for their livelihoods.

"Those communities are getting involved in other ways of surviving. And that's why there's been a lot of upsurge in criminal activities as well as artisan refining, all to survive."

Sources:

<https://journals.sagepub.com/doi/full/10.1177/19427786221084281>

<https://www.theguardian.com/global-development/2019/dec/06/this-place-used-to-be-green-the-brutal-impact-of-oil-in-the-niger-delta>

Set 2. Production

Water use and pollution

Water is one of Earth's most valuable resources, but we're using it way too fast. Only 3% of the world's water is freshwater, and most of that is trapped in glaciers or deep underground, meaning less than 1% is actually available for us to use. With the population growing, water shortages are becoming a huge problem. Already now almost two thirds of the world's population experience severe water scarcity for at least one month each year.

Cosmetics use a ton of water. Face creams are 60-80% water, lotions can be up to 90%, and shampoos or shower gels are often 95% water. But it's not just the products, water is used at every step, from growing ingredients to processing, cleaning, and packaging. This hidden water use adds up to thousands of liters per product.

Even worse, some of the water used in production gets polluted and released back into the environment. Pesticides from farming and chemicals in beauty products, like surfactants, which are common in shampoos and soaps, can end up polluting rivers and oceans, harming wildlife and ecosystems.

Sources:

<https://www.sciencedirect.com/science/article/pii/S235255092200094X>

<https://www.unicef.org/wash/water-scarcity>

<https://natrue.org/water-in-cosmetics-a-dive-into-water-free-beauty/>

Potentially harmful ingredients used in cosmetics

The European beauty industry is massive - worth a shocking €96 billion in 2023, making it the biggest cosmetics market in the world!

EU laws say that anyone selling beauty products has to make sure they're safe and meet strict regulations. But checking ingredients is a slow and complicated process. Some chemicals in makeup and skincare have been linked to scary stuff like cancer, hormone issues, fertility problems, and allergies.

The EU is way stricter than the U.S. about banning harmful ingredients, 1,641 chemicals are banned in Europe, while the U.S. has only banned 11.

Sometimes brands don't even know their products contain harmful stuff, or the risks haven't been fully proven yet. But in some cases, they do know and hide the truth. One of the biggest scandals was in 2018 when Johnson & Johnson got sued by 22 women who claimed their baby powder gave them ovarian cancer. J&J swore their product was safe, but leaked documents showed they knew it had asbestos in it and kept it a secret. As of 2023, more than 38,000 women with cancer have sued the company.

Sources:

<https://www.ctpa.org.uk/eu-and-worldwide>

<https://cosmeticseurope.eu/cosmetics-industry/understanding-cosmetics-regulation/>

<https://www.fda.gov/cosmetics/cosmetics-laws-regulations/prohibited-restricted-ingredients-cosmetics>

<https://www.reuters.com/investigates/special-report/johnsonandjohnson-cancer/>

Animal testing

"More than 100 million animals suffer and die in the U.S. every year in cruel chemical, drug, food, and cosmetics tests. Examples of animal tests include forcing mice and rats to inhale toxic fumes, force-feeding dogs pesticides, and applying corrosive chemicals into rabbits' sensitive eyes. Even if a product harms animals, it can still be marketed to consumers. Conversely, just because a product was shown to be safe in animals does not guarantee that it will be safe to use in humans." Some states in the U.S., like California, already prohibited animal testing but in many countries around the world it is still allowed or even required.

In the European Union, selling cosmetic products tested on animals is prohibited. "The message was clear: No animal deserves to suffer and be killed for the sake of lipstick or toothpaste". However, the ban in the EU is not 100% effective. There are some exceptions under which testing on animals is still allowed. Also, it doesn't mean that the product was not tested on animals before the ban came into force.

Sources:

<https://www.peta.org/issues/animals-used-for-experimentation/>

<https://www.peta.org/blog/european-union-cosmetics-testing-ban-reach-loophole/>

Set 3. Consumption

Greenwashing

You might not have heard the word *greenwashing* before, but you've definitely seen it in action. It's basically when companies try to trick you into thinking they're *super eco-friendly*, even when they're not. They slap words like *natural*, *organic*, *biodegradable*, and *eco-friendly* on their products, hoping you'll feel good about buying them. But what do those labels *actually* mean?

More and more people want to buy environmentally-friendly products, and the beauty industry *knows it*. That's why they go all out with green packaging, nature images, and fancy eco-labels. Just to confuse us even more, there are over 200 different eco-labels in the EU alone and more than 450 worldwide.

Brands also love to distract us with "feel-good" campaigns. Ever seen a beauty brand promoting a beach clean-up? Sounds great, right? But what if the biggest source of trash on those beaches is *their own plastic packaging*? They make it look like they care, but really, they're just covering up the bigger problem they *helped create*.

Sources:

<https://www.cbi.eu/market-information/natural-ingredients-cosmetics/what-demand>

https://ec.europa.eu/environment/eussd/smgp/initiative_on_green_claims.htm

Chemicals entering the body

Have you ever thought about how many different beauty products you use every day?

A study from 2004 found that women use around 12 products daily, men use 6, and teens? *Seventeen!* And that was back in 2008, chances are, the number is even higher now.

But here's the wildest part: a 2009 study in the UK found that the average woman puts 515 *different chemicals* on her body every single day. Not all of them are bad, but some have been linked to serious health issues like cancer, hormone imbalances, fertility problems, and allergies.

The scariest thing? Most of these chemicals haven't been fully tested for their long-term effects. And when multiple chemicals mix together, they can create completely new reactions in the body that scientists still don't fully understand.

Sources:

<https://www.ewg.org/research/teen-girls-body-burden-hormone-altering-cosmetics-chemicals>

<https://www.theguardian.com/us-news/2019/may/23/are-chemicals-in-beauty-products-making-us-ill>

<https://www.reuters.com/article/us-britain-cosmetics-idUSTRE5AI3M820091119>

<https://www.ewg.org/news-insights/statement/fda-warns-cosmetics-industry-follow-law-untested-ingredients>

Chemicals released into the environment

Ever thought about where your beauty products go after you use them? Every time you rinse off face wash, spit out toothpaste, or swim with sunscreen on, some of those chemicals end up in the environment.

In 2015, researchers looked into whether sunscreen was killing coral reefs and the results were pretty bad. Around 14,000 tons of sunscreen washes into the ocean every year, especially in tourist hotspots like Hawaii and the Caribbean. "At the end of the day, when the tourists had left and the water had calmed, you could see the sunscreen sheen on the surface of the water".

One of the biggest culprits? Oxybenzone - a chemical in many sunscreens that kills baby coral before it can grow. Without new coral, entire reefs start dying off.

This isn't just an ocean problem. Over 500 million people rely on coral reefs for food, protection from big waves, and tourism jobs. Reefs that used to be 70-80% alive in the 1970s now have less than 10% living coral left. And if things don't change, scientists warn that most coral reefs could be gone in the next 30-50 years.

Sources:

<https://www.hawaii.edu/news/2021/06/04/coral-reef-survival/>

<https://www.nytimes.com/2018/05/03/travel/hawaii-sunscreen-ban.html>

<https://www.hawaiipublicradio.org/news/2019-05-31/how-scientists-discovered-the-link-between-sunscreen-and-coral-reef-death>

<https://link.springer.com/article/10.1007/s00244-015-0227-7>

Set 4. Disposal and Discharge

Waste from packaging

In 2022, people in the EU threw away 16,1 *million tonnes* of plastic, but only 40,7% of it got recycled. That means a lot of it ended up in landfills, oceans, or just scattered in the environment.

And guess what? The beauty industry is a big part of the problem. Most cosmetic products still come in plastic packaging or are made of plastic themselves.

"David Kumordzi is a composer and musician based in Ghana's capital Accra. He spends a lot of his time mobilising people to clean up his country's beaches. The waste Kumordzi and his team collect includes plastics and discarded clothing. "Most of the waste is coming from Europe because we are connected to the Atlantic Ocean. Most of the waste we are seeing around our beaches is not from Ghana." He blamed Europe for the tons of waste constantly being washed ashore."

Sources:

<https://www.dw.com/en/activists-slam-europe-for-dumping-on-africa/a-61315412>

<https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20221020-1>

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Packaging_waste_statistics

<http://www.cleanocean.org/cotton-bud-survey.html>

Chemicals in WWT

More and more harmful chemicals are being released into the environment through wastewater treatment plants, and it's causing major problems for aquatic ecosystems and fish populations. It highly depends on the advancement of the technology in a specific plant, however, many common treatment plants aren't equipped to remove some of the nasty chemicals, like phthalates. In fact, only about 18% of phthalates can be removed under normal conditions.

Even worse, chemicals like PFAS (also known as "forever chemicals") can't be cleaned out at all and end up getting released right back into our water. Many of these chemicals are endocrine disruptors, meaning they mess with the body's hormone system.

When fish are exposed to these chemicals, it affects their ability to reproduce. Studies show that these chemicals mess with the number of sex cells in fish and even cause sterility, meaning they can't reproduce at all.

Sources:

<https://www.sciencedirect.com/science/article/pii/S0013935121013359>

<https://www.mdpi.com/1420-3049/26/22/6966/htm>

Microplastics into the environment

Microplastics are tiny plastic particles, usually no bigger than 5mm, and we're using around 145,000 tonnes of them every year in the EU alone!

In cosmetics, you could mostly find them in scrubs and toothpaste or glitter make-up. When we used these products, some of the microplastics ended up in our bodies, and the rest got washed down the drain.

The problem? Most wastewater plants can't filter out these tiny particles, so they end up in rivers and oceans. Then fish and sea creatures swallow them, and guess what? We end up eating the fish that's contaminated with microplastics. Because microplastics act like little sponges, they absorb toxic chemicals and bring them right into our bodies. It's a total cycle of bad news for us and the planet.

"It has been estimated that the average person can ingest up to 5 grams of microplastic a week. Some of the microplastics pass seamlessly through the digestive system and are expelled in faeces, some microplastics are accumulated within bodily organs, and recent research has shown that some pieces cross cell membranes and enter the bloodstream."

In 2023, the EU Commission restricted use of microplastics, there is now a ban on loose glitter and microbeads (microplastics used as exfoliants, meaning scrubs) and further bans will be implemented. This doesn't mean that there will be no more microplastics but it is a step in the right direction.

Sources:

<https://echa.europa.eu/sk/hot-topics/microplastics>

<https://www.theguardian.com/science/2021/sep/22/more-microplastics-in-babies-faeces-than-in-adults-study>



Appendix 2.




Solutions with tips for improvement

(Note: Mentioned problems can occur in more than one stage and these are just suggestions or most common occurrences)




1. Extraction of resources

		
<p>https://1.bp.blogspot.com/-1f7pjLlObY/XTbKaCrAwUI/AAAAAAAAAijs/Nd7LRUxzn9UcTceK3CHq6Hxjmq_E6uXJQCLcBGAs/w1200-h630-p-k-no-nu/mica3.png</p>	<p>Greenpeace</p>	<p>pixabay.com</p>
<p>child labour</p>	<p>deforestation caused by palm oil monoculture</p>	<p>destruction of the environment caused by crude oil extraction</p>
<p>It is possible to buy fair-trade mica. In fair-trade, companies pay fair-price to the mine workers. If the adult workers earn enough to support their families, they do not have to send their children into the mines.</p>	<p>Choose sustainable palm oil by looking for RSPO (Roundtable on Sustainable Palm Oil) certification on labels. You can also check the WWF Palm Oil Buyers Scorecard to find brands committed to sourcing palm oil which doesn't contribute to deforestation or environmental harm.</p>	<p>Give preference to products without mineral oil. Try to use less plastic overall, even things like synthetic colourants are made out of oil derivatives.</p>




2. Production

		
<p>unsplash.com</p>	<p>pixabay.com</p>	<p>GreenScan</p>
<p>water use and pollution</p>	<p>animal testing</p>	<p>potentially harmful ingredients used in cosmetics</p>
<p>It is often possible to find solid alternatives to cosmetic products: bar soaps, shampoos, etc or highly concentrated products. Water-free product formulation saves packaging and distribution emissions as well.</p>	<p>According to the law, products sold in the EU should not be tested on animals, hence, avoid ordering cosmetics online from non-EU websites. Support organisations fighting for animal rights, look for vegan products.</p>	<p>Be aware of what you are buying, choose better products, show the producer that you care - they will only produce products that people are buying.</p>

3. Consumption

		
<p>GreenScan</p>	<p>unsplash.com</p>	<p>https://pixnio.com/nature-landscapes/waves/an-oil-slick-from-the-oil-spill#</p>
<p>greenwashing</p>	<p>chemicals entering the body</p>	<p>chemicals released into the environment</p>
<p>Think critically about the claims on the products. Do additional research if necessary. Be familiar with the most common eco certifications and what they mean.</p>	<p>Try to use less products overall, be cautious and mindful – prevent filling up your shelves with many unnecessary products and rather focus on a few, trustful pieces for a minimal skincare routine.</p>	<p>Try to use less products, choose products that are less harming the environment. Follow the time instructions on sunscreen before entering the water or use mechanical protection instead: swimwear or t-shirts with UVblock, hats.</p>

4. Disposal and Discharge

		
<p>https://www.dw.com/en/activists-slam-europe-for-dumping-on-africa/a-61315412</p>	<p>unsplash.com</p>	<p>pixabay.com</p>
<p>waste from packaging</p>	<p>chemicals in WWT</p>	<p>microplastics into the environment</p>
<p>Choose other packaging than plastic, (glass, paper, alu). Try to use less products overall, when possible opt for refill options.</p>	<p>Choose products that are safe for the environment, don't use more than the recommended amount. For most cleaning products, it is usually sufficient to use $\frac{2}{3}$ of the recommended amount.</p>	<p>Choose products without microplastics, apps such as GreenScan can help you with this.</p>