

Exemplar Plastics

Curse or blessing for humans, animals and the environment?

Plastic – it’s everywhere. We all live on a **PLASTIC PLANET**. Plastic use and production have accelerated at breakneck speed, with more than half of all plastics having been manufactured since the year 2000. Plastics have boosted economies worldwide because of their undeniable benefits: The material is cheap, robust, lightweight and easy to make. At the same time plastics have created globally enormous environmental, economic, social, and health problems. In a nutshell: Plastics is a real wicked problem; the world has to deal with a complex, tough, and persistent problem.

Linkage to SDGs

While plastic pollution is connected with one of the targets of SDG 14, the relationship between several SDGs and the need to curb the world-wide plastic pollution is clear. There are at least ten goals connected with issues related to plastic and its impact on environment and humans. The topic of ‘Plastics’ touches on all dimensions of sustainable development: economic, natural, social, political, cultural. Each of these dimensions is unique but is also connected to the other dimensions.



Handprint CARE Pedagogy

Teachers using the Handprint CARE pedagogy could facilitate learning among learners by taking them through experience sharing to inquiring about the wicked issue of plastics to critically think about what can be done and then taking actions. Teachers are able to select appropriate knowledge, issues, skills, perspectives and values as attributes which can then be mobilised for working out and reflecting interlinked environmental, social and economic aspects of plastics. They also can encourage students to ask questions, analyse, think critically and make decisions. The exemplar presented here suggests some perspectives for working with the Handprint approach, an illustrative start-up story and possible activities. It is designed for primary schools from grade 4/5 to 6. If students in grades 7/8 want to deal with different impacts of the use of plastic the learning process should be expanded and enriched with in-depth questions, more aspects and maybe a video like that of Eco India (2021).

Selected background material for teachers (see Figure 1, ‘Did you know?’) are not intended for work with children in grade 4/5 to 6. For reasons of space, the information is not included directly in this example; it can be found in open access publications (see ‘References’).

Figure 1: Four-quadrant model with thematic background knowledge for teacher trainers (and teachers) and selected hints for in-depth discussions

Did you know? * (Fuhr/Franklin 2019) **Q1**

- History of the use of plastic
- Why the world is wallowing in waste
- Plastic has benefits – and is for eternity

Did you know? * (Fuhr/Franklin 2019) **Q2**

- Plastic bottles – the child of global trade
- We cannot recycle our way out of the plastic crisis

Q1

START-UP STORY & SHARING EXPERIENCES

Story of an engaged beverage retailer

Q2

INQUIRY & DEEPENING KNOWLEDGE

Which grocery store(s) /market(s) in your town/village use plastic packaging?

Q4

HANDPRNT ACTIONS FOR CHANGE

How to become a plastic free classroom?
Building up a school partnership

Q3

REVIEW, ANALYSIS & CRITICAL THINKING

Deliberating possible solutions for (not) using plastics, including ethics & care



Additional Material:

Q4

- Classrooms & schools can start a sustainable movement (Plastic Pollution Coalition 2022)

Did you know? *

Q3

- Plastic & marine pollution (Fuhr/Franklin 2019)
- Additional Material:**
- WWF Primary school resources

***Did you know?** Selected thematic background information for multipliers / teachers not for (direct use for the) work with students

Quadrant 1

Start up Stories & Sharing Experiences

Start-up Story: An engaged beverage retailer

Family Schmidt is sitting at lunch. The two children Jan (6 years) and Marie (10 years) have just come home from school. Marie tells excitedly what happened today: “We had a visit from a beverage retailer. He told us his story: He has already been trying for two years to counter the one-way plastic mania. However, the industry stood in his way and his family wanted to keep him away for economic reasons. A few weeks ago, he had enough. He posted an open letter on Facebook and announced that he will completely ban disposable plastic bottles from his range. He attacked the big discounters and denounced the behaviour of the consumers. For him the huge use of plastic bottles has nothing to do with environmental protection. ‘No, it’s about laziness. It has to do with comfort and a lack of responsibility.’ The beverage retailer urged his clients to stop this madness.

Jan remarks: “Look, there is also a plastic bottle on our table. We buy it because glass is so heavy to carry.” Marie does not respond to her brother's remark, but goes on: “What happened next was not what the beverage retailer had expected himself: Within a few days, his angry letter was shared more than 3.5 million times. We had an exciting discussion with him. We will continue to talk about the topic. Our teacher told us that she still remembers the following: When she was a child, her mother always had two plastic bags at the bottom of her shopping bag; they served as an “iron reserve” in case she simply bought more than she had planned”.

Marie's father stops eating, and asks: “What do your classmates think about not using disposable plastic bottles anymore?”

The proposed starting point is a real-world, true story about a German beverage retailer who took all plastic bottles out of his shop in the summer of 2019. The 41-year-old said: “I’m sick of plastic. I want to promote environmental protection and trigger a big change in my industry.” Since then, he has only sold beverages in glass bottles. The empty bottles are collected, cleaned, refilled, and sold again within a nationwide recycling system. But plastic packaging is often preferred for convenience reasons.

The start-up story has a stimulating potential for a dialogic open narrative process and deeper communication among students: The story outlines different dimensions of sustainable development: The beverage retailer raises the question of responsibility, but does not deepen this. He does not provide clear-cut and ‘easy’ answers but only gives a short hint at positive long-term effects and prevention strategies. This can lead to in-depth discussions among the children about what he might mean by this and why he does not want to use plastic bottles any longer. The students ask questions, share their own (previous) experiences that can be similar or quite different from those of the story, they bring in what they already know about plastics and what role plastic plays in their own lives, what they learned from their families, grandparents. The start-up story invites the students for reflections from different perspectives (beverage shops, customers, environment) and to start consider them in relation with one another.

Quadrant 2

Inquiry & Deepening Knowledge

Sharing stories, questions and perspectives can lead directly to the question of how much plastic packaging can be found in the shops that are part of the students' daily life. Therefore, we propose (as one possible activity) for Q2 an inquiry in selected shops of the municipality / district, exploring whether different shops offer different packaging for drinks – or other foodstuffs (e.g. fruit and vegetables).

The students should increasingly prepare, carry out and evaluate such a study independently – in primary school settings, of course, with the support of the teacher. Whether online research is useful has to be decided on a case-by-case basis. However, an inquiry based on specific aspects that the students have worked out (as far as possible) independently, is preferable.

As a suggestion, a possible work order is sketched in the box below.

Which grocery stores use plastic packaging?

1. Form small groups and decide which group(s) will visit which shop(s) or drinks departments.
2. Select some products (e.g. drinks, fruit, vegetables, snacks, takeaway food).
3. List which products are offered in plastic packaging. For beverages, check whether the bottle is disposable or reusable.

Back at school:

4. Present your results: Which store uses the most plastic packaging? Are there certain shops that use (significantly) less plastic packaging?
5. Discuss: Why so much of plastic is being used in packaging? Include different perspectives in your discussion – the perspective of a business, of people who need drinks every day, lorry drivers carrying all the bottles ...

In order to deepen their understanding and knowledge and to answer emerging questions, students can further use different media including online research to understand issues related to plastics at local and/or global level and reflect their findings in the classroom. The teacher should support the students and visualize relationships as well as feedback loops between different aspects. This enables students to work on basic systems thinking skills.

Quadrant 3

Review, Analysis & Critical Thinking

Q2 leads directly to Q3. The inquiry and the discussed results help the students to clarify their formative ideas through mediated conversations. Depending on the specific learning conditions on site, the teacher can facilitate the process by integrating an 'Ethos Hub Debate' (see box below) and/or by using different questions, for instance: Why are plastics used so widely? Why are plastics a threat for life on Earth? Where do plastics in the oceans come from? What are the possible solutions? From this the students become able to design possible solutions for specific plastics related concerns.

Ethos hub Debate: *Plastics – boon or bane?*

What do you consider more ethical of these two standpoints?

a) Versatility of plastics that has made them central to life-saving initiatives to providing care for those living in extreme conditions. For Example: Bottled water save lives in events of water contamination, plastic syringes save lives when infectious diseases break out. Plastic toiletries can save lives of people affected during natural disasters.

VERSUS

b) Over-use of plastics have caused marine pollution and is one of the main reasons of increasing loss of the rich variety of life on Earth.

A **global perspective** can also be integrated, as such a change of perspective allows students to gain a better understanding of the globally relevant challenge. At the same time, a global “we-feeling” can be developed or strengthened. As a suggestion, four examples from India, Mexico and Nigeria are briefly outlined:

In Assam, India, villagers once burned the toxic plastic waste as fuel, but a pioneering education model uses it much more creatively: The Akshar School allows students from low-income families to receive a quality education in exchange for collecting plastic from their homes and the local area as their ‘fee’ for tuition.

Source:

<https://borgenproject.org/akshar-school/>

<https://www.weforum.org/agenda/2019/05/this-indian-school-accepts-plastic-waste-instead-of-fees/>

<https://www.theguardian.com/global-development/2020/nov/25/the-indian-school-where-students-pay-for-lessons-with-plastic-waste>

Alarmed by the mounting plastic crisis a start-up in India started a scrap management company that aims to promote the collection and recycling of plastics: The company helps recycle 100k (= 100.000) tons of plastic bags into bags, T-shirts and other products. This simple initiative not only has reduced CO₂ emissions. It has also increased the income of rag pickers by 25 %. In addition to that, the rag pickers get healthcare benefits.

Source: <https://www.thebetterindia.com/180488/delhi-plastic-waste-shirt-bags-management-india/>

Since January 2021, **Mexico City**, one of the world's biggest cities, has prohibited the use of single-use plastic materials including plastic forks, straws and cups. A year earlier, plastic bags were banned. For many Mexicans, this is a challenge, while others remember life in the past and rethink old ways of carrying things.

Source:

<https://www.nbcnews.com/news/latino/mexico-city-s-plastic-bag-ban-takes-effect-some-rethink-n1109436>

<https://www.afar.com/magazine/mexico-city-ban-on-single-use-plastics-takes-effect>

<https://www.dw.com/en/mexico-city-begins-2021-with-ban-on-single-use-plastics/a-56113859>

An interesting story how people lived in **Nigeria, Africa**, with less plastic in the past and how life has changed since the 1980s.

Source: Heinrich Böll Foundation 2021, question 8.

Quadrant 4

Handprint Actions for Change

There are a lot of possible Handprint Actions regarding the complex, tough, and persistent plastics. We sketch two possible solution-orientated ideas how to develop learner-led agency around Handprint action-learning. Planning, realization and reflecting /assessing of Handprint activities create opportunities for students to engage, to develop creative ideas (including the different voices / perspectives of the classroom), to motivate each other, and to experience cognitively and emotionally responsibility and self-efficacy. By working out Handprint activities students experience that they have influence, and can make a difference. These experiences can contribute to develop hope for a more just and sustainable world.

How to become a plastic free classroom?

Start a project in the classroom to avoid single-use plastics, reduce waste and maximize recycling: **Refuse** single-use plastic, **Reuse**: Choose Reusables, **Reduce** plastic pollution

Becoming plastic-free is a process that won't happen overnight, so keep in mind some key tips:

1. **Start small**, perhaps with a **Pilot Project**, and build on your successes.
2. **Educate yourself** and others on the harms of plastics: Understand exactly what items contribute to plastic pollution. Many items in your backpack or in the classroom are made of disposable plastic. They include plastic straws, plastic bottles, plastic utensils, plastic cups, plastic wrapping for your sandwiches, and the list goes on. Share what you have learned. A great start is the one-sheet you can distribute or download.
3. **Collaborate**: Get a team together, including students, educators, and administrators. To really address the problem, you'll need peers to help spread the word, teachers to provide help along the way, and campus administrators that are willing to listen and ready to make policy changes. Think about who you can ask to get support outside the school community?
4. **Investigate**: Find out how much and what kind of disposable plastic your class uses in a year, a month, or a day. This investigation is the key to change, because it will help focus your efforts on the biggest problems, and you may be surprised by what you find.
5. **Make a plan of action**: Take on the biggest plastic problem(s), and set a goal for reduction. Define your reduction targets, including a timeline, a strategy for getting the students engaged, and a description of how you'll measure your progress.

(adapted Plastic Pollution Coalition 2022)

Building up a School Partnership

What about building up a partnership with a school situated in another part of your country or abroad (maybe situated near a beach or ocean) for working on plastic pollution and fair solutions for people and planet?

A partnership with another school offers your class and your school special opportunities for sharing knowledge and experiences. Besides a virtual exchange you can also plan and implement joint activities. For example, you can discuss how to implement plans for a plastic-free class and where you can buy environmentally friendly and reusable materials. Or you can take a class trip together to raise awareness of the dangers of plastic waste on beaches and in the sea.

There are different possibilities how to get in contact with another school. 'Go! Global' is a virtual school exchange programme developed by the ESD Expert Net. The programme facilitates pupils to exchange their practical experience related to the 17 Sustainable Development Goals (SDGs). The topic waste disposal and recycling is one of the topics that concern everyone – irrespective of their country of origin. Through virtual exchange pupils cannot only explore common ground and differences, but also learn to recognise and analyse global connections, share their experience with each other and gain new thought-provoking impulses for their own behaviour and actions on a local level.



References

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