

School level

- Recommended for 10th/11th grade

Reference to subjects

- Geography and economics, law, economics, religious education/ethics, biology and environmental education, communication/project work/social learning, ecology, English

Lesson phase

- Elaboration

Level of complexity

- Complex

Objectives

- Raising awareness of environmental fairness using the example of microplastics
- Critically reflecting on one's own consumer choices regarding plastic

Knowledge and skills

- The students can identify and explain the advantages and disadvantages of plastic.
- The students can define the term microplastics and explain their impact on ecosystems and the food chain.
- The students can independently coordinate group work tasks within small groups.
- The students can extract relevant information from both provided and independently researched sources to address the given question.
- The students can critically evaluate the gathered information and derive possible solutions and actions.

Duration

- 1-3 lessons to work through topics
- Time for presentation/discussion: approx. 1 lesson

- Conclusion by teacher: approx. 20 minutes

Resources

- Background information *Microplastics* [1]
- Material *Microplastics* [1-5]

Preparation

- If necessary, use the background information *Microplastics* [1] to prepare.
- Print out the material *Microplastics* [1-5] (one topic per group).

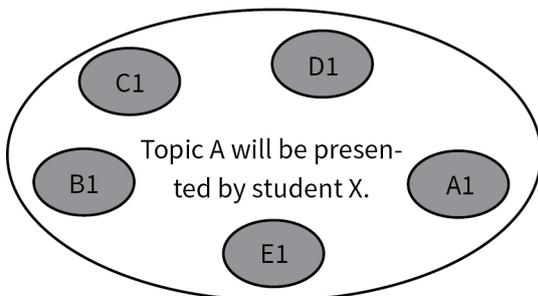
Procedure

- In an initial discussion between teachers and students, the topic of plastic is introduced briefly. Together, the class gathers different forms and examples of plastic:
 - ⇒ Where do we encounter plastic? For example, on ourselves? In visible products? In everyday items?
 - ⇒ Where in stores do we find plastic?
 - ⇒ In which situations could plastic use be avoided – and where might it be necessary? (e.g., packaging, processed materials, essential product components, raw materials)
- The class is then encouraged to reflect on fairness:
 - ⇒ To what extent is plastic fair or unfair?
 - ⇒ How does it relate to the broader theme of fairness?
- In the next step, the focus shifts to microplastics. The term is briefly introduced with
- guiding questions:
 - ⇒ Have you heard, read, or seen anything about microplastics before?
 - ⇒ Where do you think microplastics are found? (e.g., intentional use in cosmetics)
 - ⇒ Where have microplastics already been detected? (e.g., sea salt, mountaintops, animals, humans)

- To explore the topic more thoroughly, students engage in a group jigsaw activity.
- They are divided into five (roughly equal) groups, each working on a different aspect of the topic:
 - ⇒ Topic A – Plastic in general
 - ⇒ Topic B – Microplastics in rivers and oceans
 - ⇒ Topic C – Microplastics in animals and humans
 - ⇒ Topic D – Strategies for reduction/avoidance
 - ⇒ Topic E – Economic regulations and legal frameworks
- Students independently research the information, materials, and answers related to their assigned topic. Each group receives a worksheet with guiding prompts and resources such as video links, newspaper articles, images, expert information etc. (see material *Microplastics [1]* for reference).
- Each group prepares a presentation lasting approximately 15-20 minutes.
- Once the research and preparation phase are complete, the original group composition is dissolved.

Presentations:

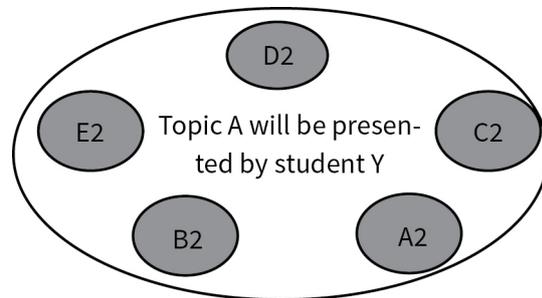
- One student from each topic group presents their results (e.g., student X presents their own topic A).



- All other students who are not presenting now take on the role of listeners. Each of

them may choose one of the five topics and attend the corresponding presentation (e.g., student X presents topic A to students B1, C1, D1, and A1).

- In the second round, the process is repeated with different presenters and new listeners selecting a different topic (e.g., student Y now presents their own topic A to students E2, B2, A2, and C2).
- This structure ensures that every student can attend at least one presentation.



- This rotation system ensures that each student can attend at least one presentation, even if they have been selected as a presenter themselves. Group assignments can either be organized by the teacher or managed independently by the students.

Conclusion:

- The teacher summarizes the key insights and outcomes in a final discussion involving the whole class.
- Alternative option: Instead of only presenting, students also create a handout to be shared with their peers afterwards.
- Alternative option: A concluding class debate on the topic, with special focus on Topic E: Economic regulations and legal frameworks.

Alternative without presentations:

- Students do not prepare a presentation but design an informational poster and an appropriate matching quiz (e.g., gap-filling,

