Let’s Act!

Teacher Manual

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Teacher Manual

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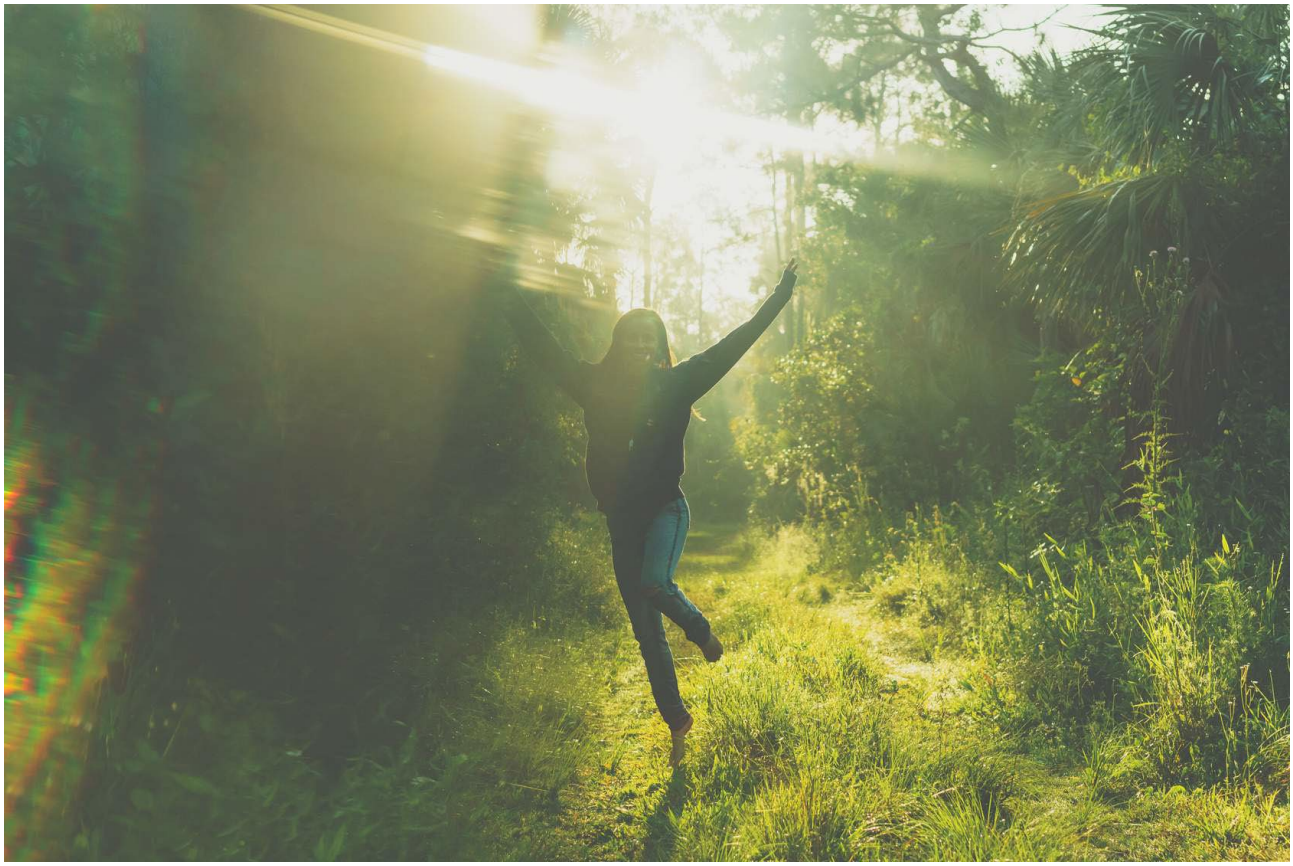
The Let's Act! Project



The project "**Let's Act**!" creates an **online learning platform** that educates students on climate change to inform, motivate and enable them in **taking action**. Knowledge and understanding of the 2030 Agenda for Sustainable Development and its 17 global goals is still insufficient among young people, and so is the awareness of the duties and responsibilities that are implied by them. Schools and teachers need proper tools and skills to teach students how to take action in this regard. Environmental and climate change are essential to sustainable development and they can also be applied to many subjects that are part of the national curriculum in most countries; however only a few teachers are fully equipped to teach the complexity of such topics, as they require a highly scientific cross-disciplinary approach.

Let's Act! Educational material's module on **"Preserving the Planet"** is focusing on explaining the complexity of the global environmental and climate goals and exploring what key actions must be made in this field.

The content of the module is based on scientific data and evidence provided by leading experts in the various fields, while the presentation of the materials and the supporting materials for teachers are designed by online learning pedagogues and communication experts.

The young generations play a crucial role in the change needed for sustainable development and preserving the planet with their daily action and behaviour. They should be actively engaged from an early age in coming to grasp complex issues such as sustainable development and how to design and implement environmentally friendly solutions. This is the reason why the project is targeting students in the age-range 12-16.

As an innovative digital resource, while focusing on this relevant content for young students, online learning is highly suitable for SDG education, as it connects people across borders and continents thus fostering multiple perspectives needed to understand the complexity of the world in the 21st century. That is why the online platform can support teachers adapting to online and blended teaching using innovative online pedagogical methods and digital tools.

With the goal of integrating the SDG Learning Platform into teaching this **teacher manual** is scaffolding the content in the platform suggesting many different activities for teachers to be implemented in the classroom together with their students.

Pedagogical and didactic approach

The purpose is to **motivate and engage** students in the process of learning about **Sustainable Development** through innovative practices with the help of digital resources, technologies, and gamification.

The pedagogical and didactic approach behind the platform and the suggestions in the teacher manual are based on an intervention strategy that includes games and activities to improve engagement and accessibility to academic goals. All the didactic materials in the platform include reading material, quizzes, and videos that are especially designed to increase learning and memorisation. They can be used to further explore the various topics, for self-assessment and student progress. The purpose is to **motivate and engage** them in the process of learning about Sustainable Development through innovative practices with the help of digital resources, technologies and gamification. Motivation and engagement are the same qualities that students need to address many of the challenges facing the planet nowadays.

Motivating students in creating a more sustainable world, is aiming to foster the following key points:

- **Critical thinking**

All the content in the platform and in the teacher manual has the objective to help students in developing the 21 century skills, focusing on critical thinking, reflection and argumentation skills. Rather than promoting a passive transmission of knowledge the materials are fostering the ability of students to judge the content in a critical way. The teacher has the role of facilitating the discussion, posing the questions and listening to the answers through a "logical and structured dialogue". The students in this way are challenged to ask themselves and between themselves their opinion on the content they are getting in touch with. That is why many of the questions, especially in the introduction and in the discussion phase, are open questions that ask students their opinion and thoughts concerning the topic. The teacher does not "provide clear-cut answers, but leaves room for reflection". Through this process of asking and answering questions, the students are developing their critical thinking skills.

- **Positive interdependence**

The content, the questions, and the quizzes in the platform are encouraging a positive interdependence between students who are relating to each other's learning process in order to progress into a deeper understanding of the subject. Each student depends on the rest of the group while working with others to complete the tasks in a collaborative way. The methods that they are using (suggested as well in this teacher manual) are affecting the way in which students are processing the content and therefore learning. It is crucial to be exposed to the content but it is also important to choose the right techniques in order to make the content relevant for the students. By using many collaborative learning strategies, students will have individual accountability to maintain their responsibility and, as a consequence, their engagement will influence the final outcome.

- **Interactions**

The process of dialogue with the teacher and between students is developing the ability of the students to interact. The interaction can be face to face or through collaborative digital platforms and it involves the ability of listening and speaking, it encourages as well the shared decision making and it teaches how to give and receive feedback. It also fosters team-building because the interaction between students is making them collaborate to achieve the same results through creative solutions. The group is processing discussing and maintained an effective working relationship.

- **Ability to take action**

All the content in the platform is addressing a topic that is very relevant for the students, with the purpose of motivating them into taking action. Research shows that students are learning in a better way when they are learning from experiences, having the opportunity to interpret that experience and interact with the others: the SDG Learning Platform is starting from the content to encourage discussion and interpretation through interaction. However, the ultimate purpose is to guide students into taking real action: the platform is designed to allow students and teachers alike to actively engage in learning about global issues. The more the students are engaged in the content, the more they are motivated to act about sustainable development and "Preserving the Planet". As Bildung-centred Didaktik is claiming, "meaning

is created by teachers and students through a dialectical relationship between the individual and the outside world".

While the platform is presenting the content in this interactive and engaging way to encourage group discussions in and outside the classroom, the activities suggested in the teacher manual are helping the teacher to introduce the content in the classroom. The teacher can start from the activity and continue with a debriefing moment that is helping the students to contextualize the activity in the learning process.

The Structure and Scaffolding

How the platform is structured

The module "**Preserving the Planet**" is divided into **five topics** and each topic contains **subtopics** with texts, videos and reflections (the number of subtopics changes depending on the lesson).

The five topics and their subtopics are the following:

1. **The Road to Agenda 2030**

1. Human rights - The social pillar
2. Global Economy - The economical pillar
3. Sustainable Development - The environmental pillar
4. Agenda 2030- The Sustainable Development Goals

2. Our planet at risk

1. Humanity at a crossroad between Holocene and Anthropocene
2. Planetary boundaries and tipping points
3. Human action/inaction is fundamental
4. Building the future we want

3. **Energy at the core of the problem and the solution**

1. Energy as an enabler of human and economic development
2. A just and equitable energy transition
3. High and low emitters
4. Net Zero by 2050

4. **Food production - the other side of the coin**

1. Use of lands surface
2. Sustainable food production
3. Sustainable health diet
4. Halving food loss and waste

5. **A World of opportunities**

1. Role of government - top-down approach
2. Corporate social responsibility
3. Technology and innovation
4. Civil society and individuals

They are all addressing topics related to the Sustainable Development Agenda 2030 and they are designed to be completed by students individually, in pairs or in small groups. In doing so, students will need one device each with Internet access such as a tablet or computer but it is also possible to engage with the Platform from one screen in the classroom facilitated by the teacher. As previously mentioned, the teacher can decide how to use the platform depending on the specific context of the classes.

The digital platform will support students' learning process and progression through the topics.

Each topic is structured in the same way through many **subtopics**: there is a first introduction where the students are asked to answer some introductory and provocatory questions with the aim of catching student's attention and interest on the specific topic. The introduction is then followed by a discussion phase where the platform is suggesting some questions for the students to discuss the topic.

The content on each topic is presented to the students through some informational text and video that the students can explore (sometimes guided by the teacher who can have the role of facilitating the moment of reflection and discussion).

At the end of each topic there is a group or individual activity in the classroom, outdoor or at home where the students are asked to create something to wrap-up and re-elaborate what they have learned. Through drawings, role-plays and other activities (also activities connected with actions in the real world) they are encouraged to reframe in a group and in a creative way the content of the topic in order to interiorize it and make it relevant.

How to use the platform

Online in the classroom, as a material that students can use on their own from home or in a printed version.

The platform can be used online in the classroom or as a material that students can use on their own from home. Indeed, as it is explained in many of the activities suggested, it is also possible to use the content in a printed version.

Besides that, the teachers can use a "**pick and mix-method**": they do not necessarily have to go through every topics and subtopics, but they can choose the elements and tasks that fit the curriculum the best or adapt them depending on the context and the age of the students. Each topic is independent and it can be implemented on its own or integrated into one subject.

Concerning the **time required**, a topic takes about **90 minutes** to go through. However, it can be shorter or longer, if the teacher decides to dig in deeper with some of the questions or if the teacher would like to add smaller tasks.

Digital tools used and blended learning

ICT tools are used for assessment, creating mind maps, brainstorming and cooperative learning, quizzes, better engagement in the learning process and in general for diversifying the learning process.

During the Covid-19 pandemic many teachers realized the importance of the technologies in supporting the learning process and the different learning needs. Even in

During the Covid-19 pandemic many teachers realized the importance of the technologies in supporting the learning process and the different learning needs. Even in the cases in which teachers are not experts, they can learn fast, as all the tools used are very intuitive and easy to use, especially for the students.

Each task can be solved with different tools, either analogue or digitally. Blended learning combines the use of digital tools with the face-to-face interaction in the class. These two approaches complement each other in the learning process.

So what can the technology offer and how does it support learning?

The use of ICT tools in education is quite popular and certainly really effective in recent years. The main categories of the use of ICT in the learning process are highlighted. One of the idea how to use ICT tools in the classroom is for an **assessment**. Through assessment, teachers test students' understanding and then use this information to modify instructions and the way of teaching. When teachers know what students know (or do not know), they can adjust the material for students' level. On the other hand, such

tools show students what they need to learn and where to go deeper. Some examples of ICT tools for assessment are:

- **Quizlet** Learning with flashcards
- **Mentimeter** Interactive presentation with the possibility to ask questions and create the quizzes
- **EdPuzzle** Video lesson creator
- **TedEd** Educational video creator based on TedTalks
- **LearningApps.org** Interactive creator for different kind of activities such as crosswords, matching pairs and group assignment
- **Socrative** Quizzes with immediate feedback
- **Google forms** Online forms and surveys with multiple question types
- **Microsoft forms** Online forms
- **Kahoot** Student-response tool for administering quizzes and facilitating discussions
- **Baamboozle**

Library with online learning games and even more.
Another category includes the tools for creating **mind maps, brainstorming and cooperative learning**. The use of such tools allows to create mind maps that enable a group of students (also with a teacher) to work simultaneously on a project, write their ideas, develop several branches of the idea, and structure the information. Brainstorming with the use of technology is more interactive, bright and exciting. Technology allows everyone to speak out, even those who usually keep their ideas to themselves, as there is an opportunity to speak anonymously. All of them allow students and teachers to collaborate. Some examples of tools:

- **Padlet** Online noticeboard
- **Google Jamboard** Digital collaborative whiteboard
- **Mindmeister** Web-based mind map maker
- **Bubbl.us** Online brainstorming software.

Quizzes can easily be done in ICT tools. It attracts students with their novelty, variety of forms and methods and fun presentation. Online quizzes allow you to study on your own or engage in group work, assignments, and presentations - in person and remotely. In addition, students often forget that this is a

certain form of assessment of their knowledge on the subject, so the form of control is completely different. Most of them are very colorful, using music, animation, points system and places.

The most popular platforms are:

- **Quizizz** Online quiz creator
- **Poll Everywhere** In and outside the classroom quiz and polls creator
- **ClassMarker** Quiz maker with Tests & Quizzes graded instantly
- **Quzilet.Live**. In-class game to review the information while working together in teams
- **Riddle** PlayBuzz and Buzzfeed-style quizzes
- **Kahoot**
- **Baamboozle**

For **better engagement in the learning process**, as well as the development of creative skills of students, teachers use various photo and video creators. Using them, teachers and students can design presentations, social media graphics, infographics, flyers, posters, collages, CVs, banners, videos and much more. They attract the attention of the students, energize them or wake them up. Using multimedia creators allows us to introduce or wrap up a subject and reflect on it. Video creators help to create a video explainer and explain a process or concept step by step, a marketing or promotional video, challenge students to create their own presentation or sum up video as assignment. Another benefit is to embed it in other tools (e-learning website, quizzes, documents, etc).

Some examples are:

- **Canva** Online graphic design tool
- **Powtoon** Intuitive platform for creating energized, fun, and attention-grabbing videos
- **Thinglink** Tool for creating interactive images and videos by adding tags
- **Animoto** Online video maker

All these ICT tools will **diversify the learning process**, add something new and interactive, increase the motivation of students, as well as their involvement in the process. Gamifying the classroom with the use of ICT encourages collaboration, fun, focus, and productivity, provides context and consolidates knowledge in a friendly environment. It stimulates specific behaviors and provides immediate feedback with tracking of the progress.

Blended learning is a combination of traditional forms of classroom learning with elements of e-learning, which uses special information technologies such as computer graphics, audio and video, interactive elements, educational applications etc. The learning process in blended learning is a sequence of phases of traditional and e-learning, which alternate in time.

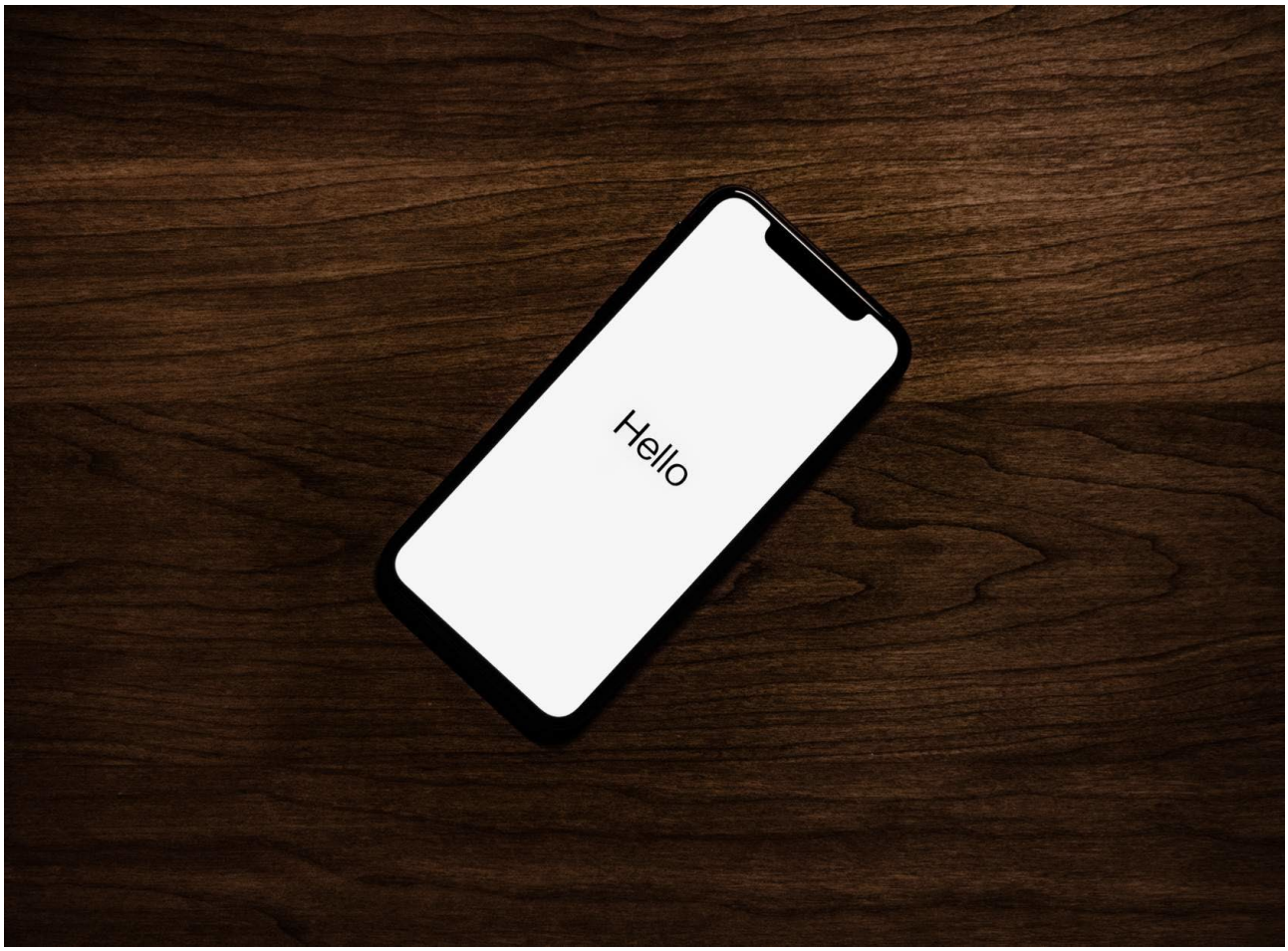
To obtain the effect, consistency in teaching is important: first, the student must feel the material himself, then receive theoretical knowledge from the teacher, and only then apply it in practice. In many ways, this principle intersects with the “flipped class” model.

Thanks to modern e-learning tools, the teacher can create a knowledge base that the student will always have at hand in the classroom and at home.Blended learning is partly based on the principles of micro-learning. Due to the availability of the material, the student can always go to the educational portal and get a "new portion" of the material.

The teacher should be aware of GDPR when choosing and using ICT tools proposed in the platform. Let’s Act! team is not responsible for data that teachers provide to third party applications.

Generic elements

Introduction



Each topic starts with a very brief introduction that has the aim to give pupils a framework and a context of the content that the topic is about to explore. This part of the lesson has the purpose of **introducing the content** highlighting how this is "meaningful to the student": This part will catch their attention in order to motivate them to take an active part in the lesson.

By reading the content and answering some general questions, the students are able to see the direction that the topic is taking. The questions asked are very general and they often refer to students' personal experiences and personal opinions. By connecting their personal experiences with the content, students are going to be more motivated, and they will link the topic itself with their experiences from the real world.

The introduction, therefore, is a **bridge** between the students and the topic. The questions in the introduction foster **curiosity** in the students to start asking themselves other questions connected to the topic.

Suggestions to present the introduction to the students:

- Students can work individually at home by reading the text and then discussing in the class starting with the questions
- Students can work individually in the classroom by reading the text on their own and the discussion can follow in small groups or together with the teacher
- Students can work in small groups in the class by reading the text together and then discussing with peers through many learning techniques (such as brainstorming and writestorming; association of topic-definition; key words connected to the topic; sharing opinions and so on) depending on how the teacher chose to present the questions to the class
- Students can work all together in the class starting with some games and interactive activities connected to the topic (such as mime or storytelling; interactive quiz and so on)

In any case, the teacher has the role to facilitate the discussion encouraging participation and peer feedback. Once students read the text and answer the introductive questions, they are now prepared to go on with the next steps.

Discussion phase

Students can work in small groups, in pairs or individually but simultaneously with the other classmates.

For each topic, the introduction is followed by a discussion phase. This part of the lesson has the purpose of **encouraging the discussion** between students and between the teacher and the students, connecting the prior knowledge with the new one. The perception that the students have is affecting the way in which they approach the new content because each student has knowledge and personal experiences that influence their perception, understanding and motivation. The more the students connect with their prior knowledge the more they will learn.

Based on what comes out of the discussion, the teacher can decide how to approach the topic and how to focus on the different aspects.

In the manual there are suggestions for teachers how to ask questions to the students and for students how to share their opinions The more they share the more they will recall from previous knowledge and that is why the suggestion is to make students work in groups:

- Students can work in small groups, asking each other the questions they find on the platform. They can write the answers or some key words connected to the answer trying to think about

everything they know about the topic. By adding one word or answer each student is contributing to the final answer and is building together with the others the discussion level of the classroom. Indeed, by reading or listening to the other students' answers they are already getting in touch with the content and knowledge (and fostering membership at the same time).

- Students can work in pairs and take turns in asking and answering questions. By sharing their opinion and knowledge with a classmate they are recalling what they already know, sharing and fostering their active listening.
- Students can work individually but simultaneously with the other classmates. The teacher can create a presentation through a shared online board such as a Padlet or Jamboard asking the questions that they can find on the platform. When the teacher is sharing the link with the students they can answer and in the same moment, they will see the answers of the other students. Another option is for the teacher to create a presentation through Mentimeter (or similar tools) where students can interact with the presentation sharing their answers while reading other students' answers.

How to facilitate reflection and discussion

For facilitating reflection and discussion teachers can use cooperative learning strategies.

Both in the introduction and in the discussion phase, the teacher has the role of facilitating the discussion, helping the students to think and share as much as possible.

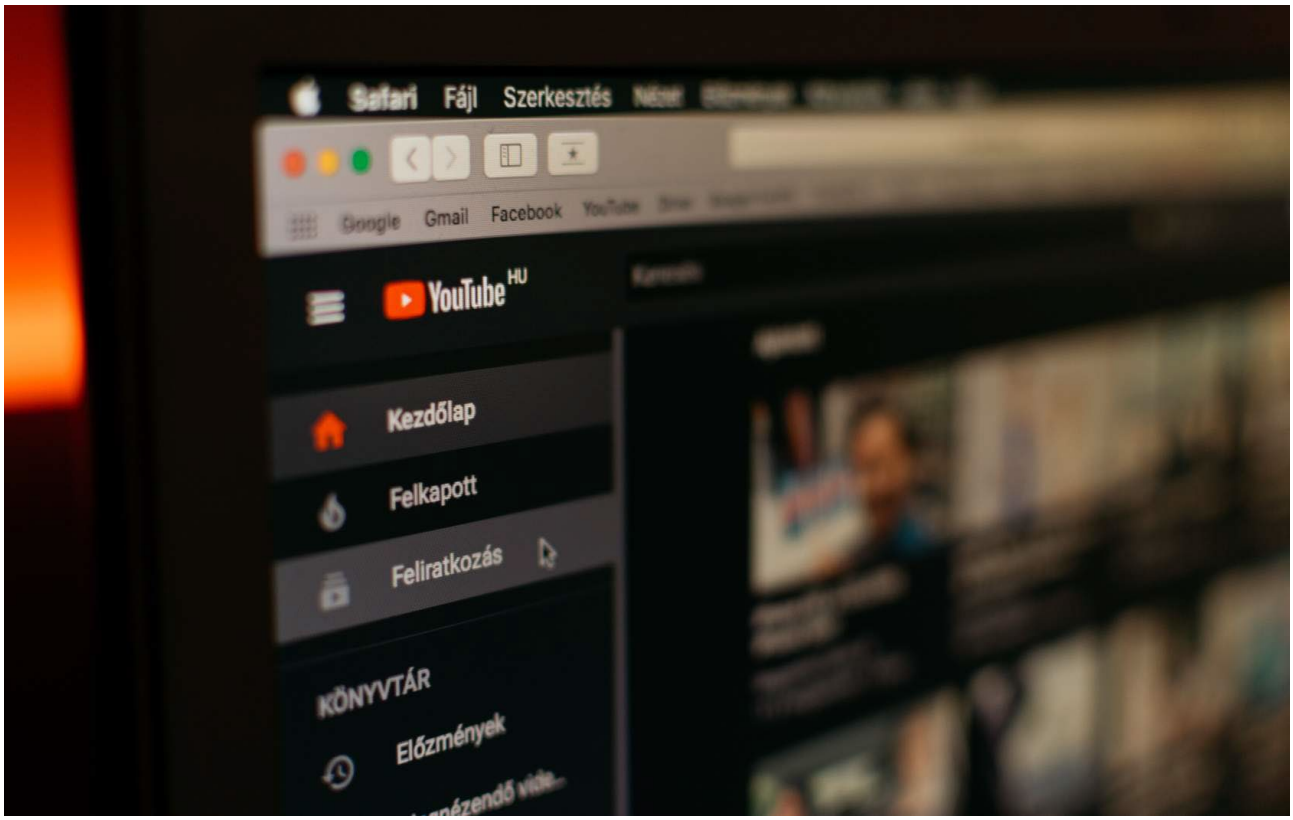
In the teacher manual there are several strategies how to facilitate reflection and discussion and all of them are **cooperative learning strategies**. These strategies promote interaction and shared responsibility for the learning. When students are discussing they are learning from each other (peer learning). Each student has one's own preferred learning style which make learning easier. When creating a mix learning gets easier.

The teacher will facilitate the process by encouraging discussions, organizing the work, and organizing the classroom setting. The teacher is, organizing the groups with a purpose (randomly, letting the students group according to their opinion, pairing up students of the same level or different levels and so on) but always giving them a final task, such as summarizing what they have discussed or creating a final product to share with the others.

Some examples of the strategies suggested in this teacher manual to scaffold the introductions and discussion phase in the platform can be:

- Think-pair-share
- Question carousel
- World cafe and Learning station
- Jigsaw method
- Definition through brainstorming or key words
- Collaborative drawings

Informational videos



The multimodality of the platform stimulates learning as it makes the content more interactive and more engaging.

The content in the platform is shared in many modalities. The text with content is always followed by one or more **videos**. The **multimodality** of the platform stimulates learning as it makes the content more interactive and more engaging.

The multimodality is encouraged by the activities suggested in the teacher manual that is balancing between digital and traditional activities.

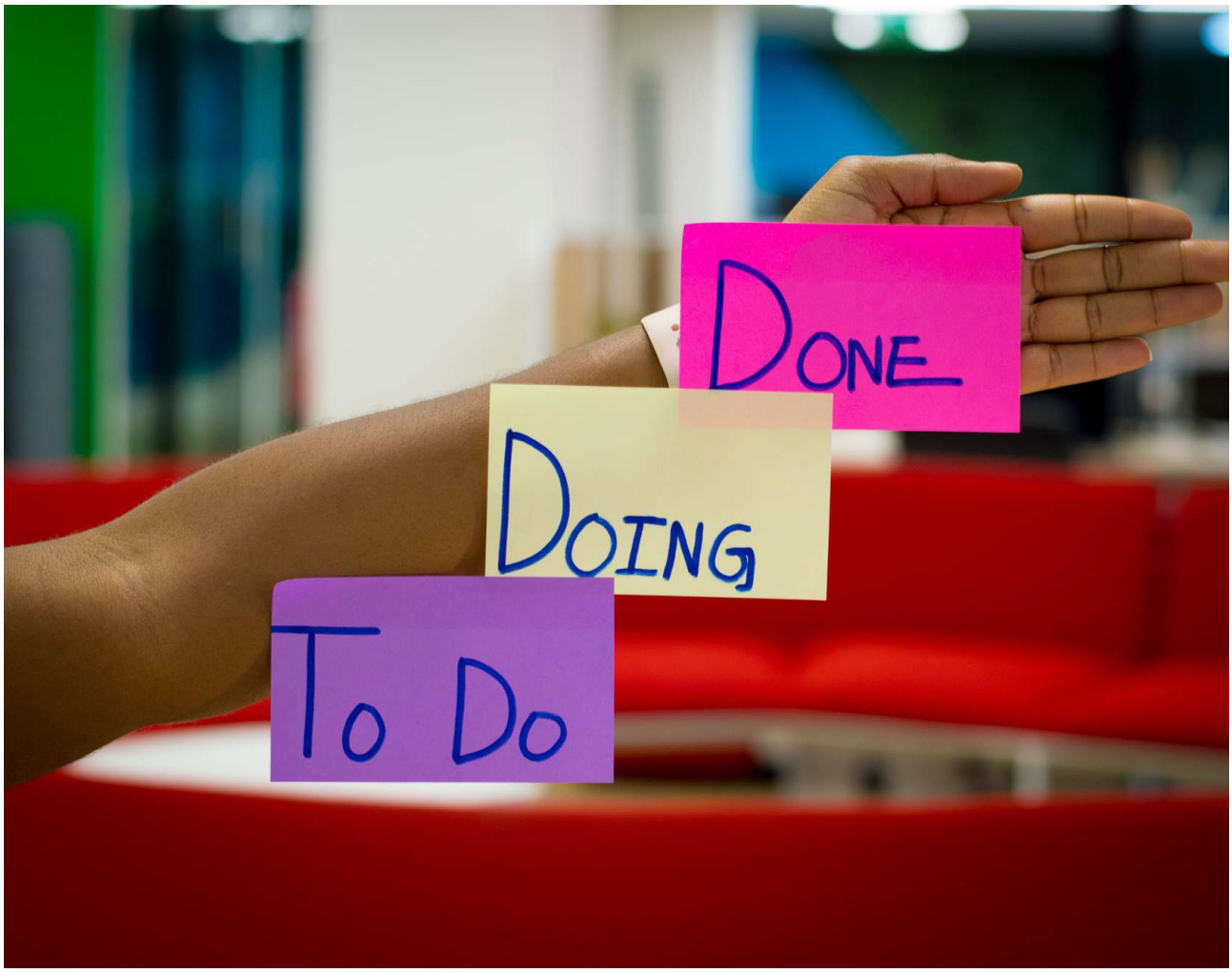
Multimodal learning is combining different modes of learning (visual, auditory, kinaesthetic) so that each student is engaged somehow in the learning process depending on their learning style. They can read the text but they can also visualize the content thanks to the many images embedded in the platform. Many

subtopics present the content through videos that can help the student to get in touch with the content in a visual and interactive way.

Students can move at their own pace thanks to the different ways in which the materials are presented.

All the videos are chosen by experts in the field and they are **valid sources**.

Tasks



In the teacher manual teachers can find two suggestions to implement each task.

At the end of each topic, the student can find a "task". The task is a class room activity that the students can engage in with a very **hands-on approach**.

The students do not necessarily have to solve every task. The teacher has the opportunity to pick and choose the task they find more suited to the specific context. Alternatively, the students themselves can choose the tasks they prefer: the key point is that the teachers and the students are free to **use the platform according to their needs**.

There are two suggestions to implement each task. One has to be implemented through a digital tool; while the other has to be implemented in a more traditional way. The tasks can be implemented in the classroom or they can be done as homework over time. All the tasks promote interaction and teamwork between classmates.

1. The Road to Agenda 2030

Human Rights – the social pillar

Duration 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 1, topic #1 Human rights 2. Tutorial: How to create your first Mentimeter presentation 3. Tutorial: How to play Quizlet live 4. Tutorial: Padlet for teachers.	1. Newspapers, glues, scissors, blank sheets of paper 2. Posters 3. Printed version of the human rights.

Introduction to the topic

Presentation of human rights

Plenary discussion using the collaborative learning strategy "think-pair-share". The teacher ask the students the following questions:

- What are three things you are most grateful for in your life and why?
- What do you think is the hardest job in the world and why?

1. First step: "think". Students try individually to answer the questions above written or verbally.
2. Second step: "pair". Each student pairs up with another to compare answers and discuss them.
3. Third step: "share". Each couple of students present their answers to the others, sharing their thoughts with each other and with the teacher.
4. Some questions to help the teacher to facilitate the discussion could include:
    a. Do you have something in common with your classmates concerning the things you are most grateful for in your life?
    b. Did you agree with your classmate on the hardest job? If not, why? What did each of you choose was the hardest job?

Discussion phase

Human rights: the social pillars

The students will answer some questions about human rights, through the collaborative learning strategy Question carousel, which involves movement, discussion, and reflection within students.
The teacher will write each of the following questions in a poster each:

- What are human rights?
- How does human rights relate to your everyday life?
- Do you know about any human rights characters?
- What do you know about the Second World War? How is it related to the human rights?
- What do you know about the United Nations (UN)? How is it related to human rights?

Students will work in small groups and move from station to station, discussing each question and writing their answers, each group with a different colored marker.

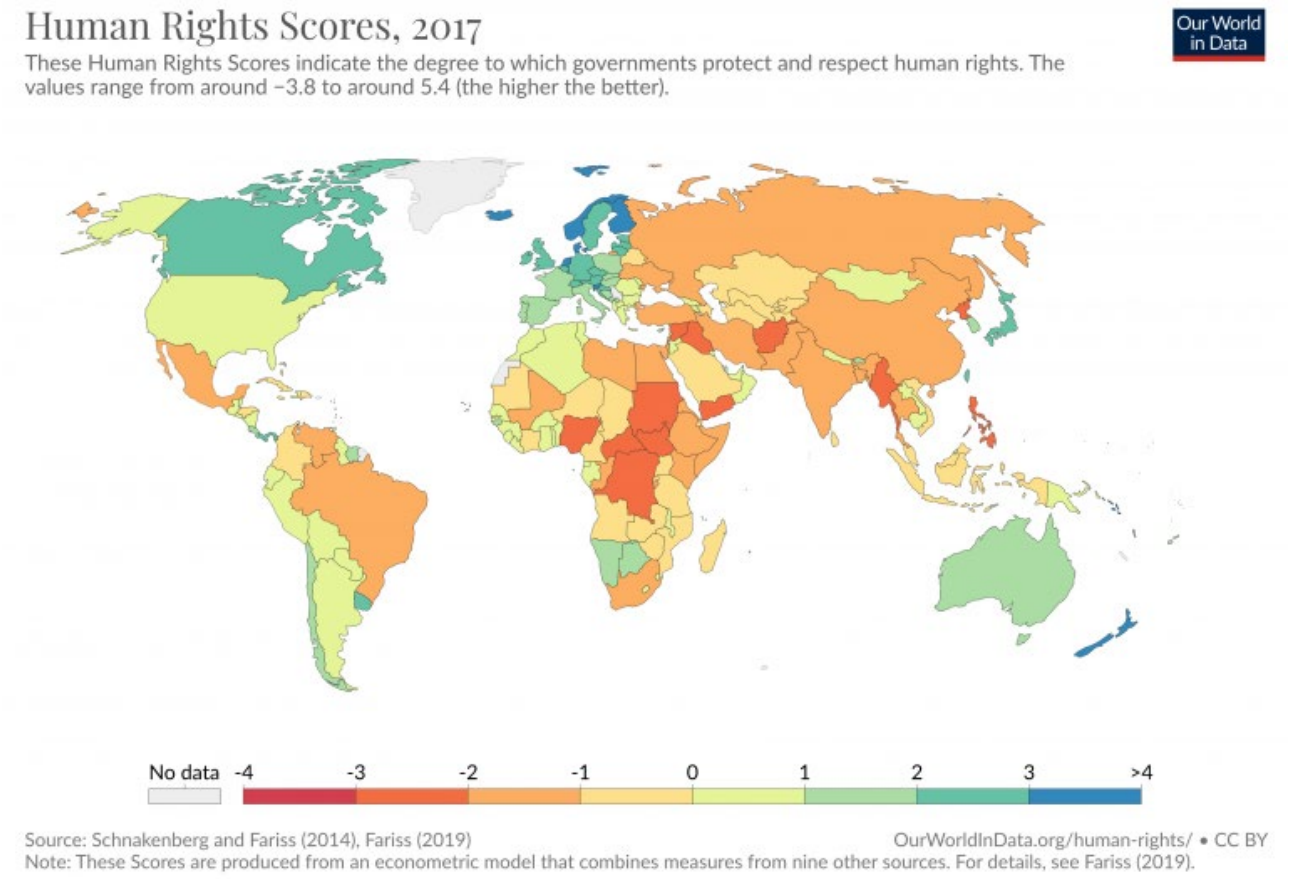
Each group begins at a different station. The teacher sets a timer, and students stay at each station for a set period of time (about 3-5 minutes at each station).

During the time that students are at each station, they read the question, skim over any previous answers by other groups, and then add their own ideas to the paper. When the timer goes off, they move to the next station.

When the groups have visited each station, there is a short discussion to debrief. With younger students, you may want to choose a couple of points to highlight and discuss from each paper (depending on the students' answers), rather than reading everything that was written. The debriefing, in any case, can have the following structure: the teacher asks each group of students to read their answers from one of the posters, commenting on the other students' answers.

Reflection and discussion on human rights in different countries

Students enter the webpage where they will find interactive charts on human rights that highlight which countries have more civil liberties, national human rights institutions, freedom of association, and so on. Students can work in couples to explore the web page first. The teacher will then assign one country to each couple of students and they can explore the various maps with the goal of drawing a profile of the country taken, following the different parameters illustrated on the maps.



The data and research currently presented here is a preliminary collection or relevant material. We will further develop our work on this topic in the future (to cover it in the same detail as for example our entry on World Population Growth).

The graph is from Our World on Data (**https://ourworldindata.org/human-rights**)

Mentimeter is a tool for create interactive presentations. A debriefing session will follow, where the teacher will ask the students some questions through a Mentimeter presentation, using the type of slides called "word cloud".

The questions to add in the Mentimeter presentation are the following:

- How does the government protects the human rights in your country?
- In which ways do you think individual and collective rights have improved since your grandparents were your age?
- Are there any common practices today that you think will not be considered acceptable in the future?

Each student or couple of students will have the possibility to go from their device to answer the question projected from Mentimeter in the class. The answers will appear on the screen in different colors and

sizes, depending on how many students typed the same answer, and all the students will read at the same time their classmates' answers.

Mentimeter is a tool for creating presentations with real-time feedback.

Instructions for the teacher on how to create a Mentimeter presentation can be found here:

How To Create Your First Mentimeter Presentation

Some of the main benefits of using Mentimeter can be found here

Reflection and discussion when using videos

A New World Order after the Second World War

Students can watch the videos suggested on the platform in small groups:

The students watch the video (Duration 7:52) to find out more about Human Rights.
Watch by clicking here

The students watch the video (Duration 2:57) about Nelson Mandela and listen to his message about Human Rights. Watch by clicking here

The students watch the video (Duration 9:29)the UN, the Universal Declaration of Human Rights, and the History of Human Rights. Watch by clicking here

The history of human rights

The video mini-lesson can end with a group competition on the history of human rights and characters on Quizlet Live. Teachers can personalize the quiz, making one quiz per video, if they prefer to focus and debrief more on one topic over the others. Instructions for the teacher to run in live mode can be found in the tutorial:

Quizlet is a collaborative game based on online flashcards.

Instructions for the teacher to run in live mode can be found here:

Learn how to play Quizlet Live

Some of the main benefits of using Quizlet can be found here

Need to have or Nice to have: small groups card activity to discuss on wants and needs

Prepare the classroom setting for the small group work. Equip each table with newspapers, glues, scissors, and blank sheets of paper. Students in small groups skim some newspapers and cut 3 things they value as important things in their life. It can be pictures of concrete objects like food, smartphones or pictures representing abstract concepts like nature, sport, or family). Once identified, students glue the three things on three sheets of paper. The students should explain what their abstract concepts represent to them. This way the students obtain a deck of cards inside each group.

Small groups exchange their decks of cards and together they sort things into wants and needs. Needs are necessary things for survival, wants are desirable things but not necessary for survival.

The groups gather in plenary. First, they compare their classifications, second they put together all the wants and all the needs and attach them on the wall or larger flipchart to visualize the overall outcome. Focus the discussion on the following aspects:

- Do we have more needs or wants? Why?
- Are you sure all the needs are real needs?
- How could this classification be different for people around the world?
- Which needs should be common for all humans in the world?
- How are this connected to human rights?

Tasks can be solved in different ways

Suggestion 1

Human rights pictionary: "Write a short narrative about the person and a fan fact". Students are divided into teams of 4-6 students each. Each team thinks about a short narrative or fun fact about a human right character.

Each team one at a time draws the character.The other team should guess which character it is. The team that guess most characters win. In the debriefing session the teacher asks the students if it was difficult to guess and what they learned from the process of looking for narrative and fun facts.

Suggestion 2

Students use Canva to create the portrait of a human rights activist. The teacher tell the students to divide the portrait into two sides. One side contains the positive aspects in keywords, the other side contains the more negative aspects in keywords. Once the students have completed, they can post it on a Padlet shared with the class. Then each student can use the Padlet to comment on the portraits for example writing something positive about each of them. The teacher creates a blank Padlet and sends the link to the students. The students post the Canva portrait in the Padlet. Each student will have the possibility to have a look of all the portraits and comments.

Instructions for the teacher to help the students use Padlet can be found here if needed: Padlet Tutorial for Teachers

Link to Canva: Canva
Link to Padlet: Padlet
Padlet tutorial for teachers: https://www.youtube.com/watch?v=dC69Sr-OQik&ab_channel=NewEdTechClassroom.

Global Economy – the economic pillar

Duration: 90 minutes

Materials available	Materials needed
1.Let's Act! Lesson 1, topic #2 Global economy 2. Jamboard "Global economy" 3.Tutorial: How to use Jamboard 4.Tutorial: What is the jigsaw method	1. Posters 2. Printed version of the activity "make a role-play"

Presentation of Global economy

Introduction to the topic

The teacher shares this Jamboard with the students.

The Jamboard contains the following questions:

- Do you believe you can buy happiness?
- If your country was going into lock-down, what products would you make sure to stock up on? Where do these products come from?

The second question contains a sticky note that is asking students to try to make their grocery shopping list in the hypothetical scenario of another lock-down. On the fourth page of the Jamboard each student can add an element from their shopping list. For every product the students also try to guess whether it is imported, and if so the country of the origin. Then the whole class together with the teacher can list those products one by one, and try to conclude if the first guess was correct. The goal of this exercise is to show students the importance of the global market, and how many products they use on a daily basis that would not be available if there were no access to the global market.

Jamboard is an online collaborative whiteboard.

Instructions for the teacher on how to help students use Jamboard if needed can be found here:

Guide to Google Jamboard for Beginners!

Some of the main benefits of using Jamboard can be found here

Discussion phase

The students will answer some questions in order to share their thoughts and opinions about the global economy topic.

Students are divided into teams of 4-6 members, so they can first share what they know and brainstorm within the group. After the first brainstorming, students draw a table in a big paper with three columns:

- What I know
- What I think I know
- What I would like to find out

Then, for each of the following questions (the teacher can project the questions on the screen or distribute printed versions), students try to fill in the table.

- What do you already know about "global economy"?

- How does "global economy" relate to your everyday life?
- What is the Silk Road?
- What do you know about the Cold War?
- What is slave trade? Do we see slave trade today?

Each group of students present their table to the whole classroom and together with the teacher they discuss their answers, highlighting the things that the groups wrote in common.

Reflection and discussion when using videos

Students can explore the whole topic (or also just some of the Subtopics) through the collaborative learning strategy Jigsaw method.

Students are divided into teams of six members. Each member of the team is assigned a subtopic:

- From the Silk Road to Modern Globalization. Watch the video (Duration 5:19) explaining the history and facts about the Silk Road.
- From Silk Road to Global Trade. Watch the video (Duration 6:41) explaining how works the International Trade.
- Three Worlds. Watch the video (Duration 4:45) explaining Human Development Index.
- Western liberal worlds. Watch the video (Duration 3:36) explaining How the Marshall Plan Helped Europe Rebuild After WWII.
- Arms race, Space race – the Cold War superpower competition. Watch the video (Duration 4:47) about the Satellite Sputnik.
- History of Africa – Slave trade, Colonization, Independence and Today. Watch the video (Duration 5:38) about The Atlantic slave trade.
- Watch the video (Duration 4:10) about the possible friends and foes of Africa today and in the future.
- More Prosperity yet also more Inequality. Watch the video (Duration 1:28) about the gap between rich and poor people.
- Watch the video (Duration 1:48) about the link between income and life expectancy.

The goal is for each member of the team to become an "expert" on one single subtopic and to learn about the others from the classmates.

How to implement the strategy, step by step:

1. At the start of the jigsaw each student would leave their "home team" to join the "expert team" (also called "focus team").

2. As a result, each student that was assigned for example to the subtopic "From the Silk Road to Modern Globalization" will move to an area to learn all the relevant information concerning the subtopic.

3. Simultaneously the other five "expert groups" will explore the other subtopics in the platform.

4. After about 30 minutes each member in each expert group can go back to the home group. At this point the students can present what they have learned to the home group.Even though each member will be expert and responsible on only one subtopic, they will learn about all of them thanks to the peer learning.

Note:

- Materials: each group will study the subtopic reading the content from the platform and, most important, watching the video suggested in the platform. Each group can decide how to study (writing a mind map, key words, sharing ideas etc.)
- Time: the time amount suggested is about 30 minutes but it can take longer or shorter for students to explore each subtopic and be able to memorize and learn the content.

A debriefing session will follow. Each group will be asked to think about one thing they learned from each subtopic and they will present it to the class.

Instructions for the teacher on how to help students with the jigsaw if needed can be found here: What is the Jigsaw Method

Task can be solved in different ways

Suggestion 1

One of the possible tasks that you can assign to the students is to make a role-play about Global economy. Now that they have knowledge on different issues related to global economy, they can be able to pick a character (e.g. a politician, a child, an adult) and write a script of the role-play.

Students are divided in groups of four and the teacher sets the scene to the students:
"Due to the global conflict and disagreement, the majority of the countries stop their diplomatic relations with the others. As a result the whole World almost stops trading and the international trading roads are closed. As a person of great influence, your job is to find a solution, solve this issue, and try to convince your colleagues that your approach will bring results."

Each student will secretly pick up a card with one of the following characters, each of them with its separate key quote, characteristics and/or description:

Paul Robin Krugman, an American economist and public intellectual. You are the winner of the Nobel Memorial Prize in Economic Sciences for your contributions to New Trade Theory and New Economic Geography. The Prize Committee cited your work explaining the patterns of international trade and the geographic distribution of economic activity, by examining the effects of economies of scale and of consumer preferences for diverse goods and services. Your support for free trade in the 1980s–1990s provoked some ire from the anti-globalization movement. At times, you advocated free markets in contexts where they are often viewed as controversial. You have also written against rent control and land-use restrictions in favor of market supply and demand, as well as likened the opposition against free trade and globalization.

Margaret Thatcher, the former Prime Minister of the United Kingdom from 1979 to 1990 and leader of the Conservative Party from 1975 to 1990. You were the first female British prime minister and the longest-serving British prime minister of the 20th century. As prime minister, you implemented policies that became known as Thatcherism. A Soviet journalist dubbed you the "Iron Lady", a nickname that became associated with your uncompromising politics and leadership style. After becoming a prime minister when you won the 1979 general election, you introduced a series of economic policies intended to reverse high inflation and Britain's struggles in the wake of the Winter of Discontent and an oncoming recession. Your political philosophy and economic policies emphasised deregulation particularly of the financial sector, the privatisation of state-owned companies, and reducing the power and influence of trade unions. Your popularity in your first years in office waned amid recession and rising unemployment.

Viktor Orban, a Hungarian politician who serves as prime minister of Hungary since 2010, previously holding the office from 1998 to 2002. You are known for your traditional point of views and euro-scepticism, but also for your economic policies and the fact that you secured enormous economic growth of Hungary with your economic reforms and policies. You even have your own economic term: Orbanomics, which is the name given to the way of leading economic policies by you and your government since you took power back in 2010. These policies were the reaction to the global economic crisis from which you successfully pulled out the state of Hungary. You are also keeping your approval rate at a high level due to the fact that during your mandate, the average salary in Hungary has increased more than 2.5 times, from 199.800 HUF per month back in 2010 to 507.500 HUF per month in 2022.

Milton Friedman, an American economist and statistician who received the 1976 Nobel Memorial Prize in Economic Sciences for your research on consumption analysis, monetary history and theory and the complexity of stabilization policy. Your challenged what youlater called "naive Keynesian theory" began with your interpretation of consumption, which tracked how consumers spend. You introduced a theory which would later become part of the mainstream and among the first to propagate the theory of consumption smoothing. You promoted a macroeconomic viewpoint known as monetarism. Your monetary theory influenced the Federal Reserve's monetary policy in response to the global financial crisis of 2007–2008.

Kofi Annan the Secretary-General of the United Nations from 1997 to 2006. You were also a Nobel Peace Prize laureate and the founding chair of the Kofi Annan Foundation. You studied economics at Macalester College, international relations at the Graduate Institute Geneva, and management at MIT. You joined the United Nations in 1962, working for the World Health Organization's Geneva office. As secretary-general, you reformed the UN bureaucracy, worked to combat HIV/AIDS (especially in Africa) and launched the UN Global Compact. You were criticised for not expanding the Security Council and faced calls for your resignation after an investigation into the Oil-for-Food Programme and for not opposing conflicts in Europe, but you were partly exonerated of personal corruption.

Suggestion 2

After writing the script of the role-play, students in groups create a movie to represent it, through a storytelling activity. First, they brainstorm with their group on what they learned on Global Economy. Then they write together the script of the role-play and create a small video. They can use:

- Canva video. Video and cartoons
- Imovie

After making the video they can share it with the other classmates.

Instructions for the teacher to help the students use Canva can be found here if needed:
How to Create VIDEOS with Canva

Instructions for the teacher to help the students use iMovie can be found here if needed:
iMovie Tutorial for Beginners.

Sustainable development – the environmental pillar

Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 1, topic #3 Sustainable development 2. Tutorial: How to create video lesson with EdPuzzle 3. Video lesson with EdPuzzle 4. *Crossword* template 5. *Thinking hats* activity.	1. Newspapers, glues, scissors, blank sheets of paper 2. Posters 3. Printed *Six thinking hats roles* 4. Printed *17 goals and descriptions* 5. Printed *Personalities* 6. Printed *Crosswords*

Introduction to the topic

Presentation of Sustainable Development Topic

The students begin with attempting to create the definition of sustainable development in small groups. The first step is to write down five to seven associations about sustainable development. The second step is to create a common definition.

After sharing you can propose the definition from the platform and start a short discussion using the questions:

- What is your favorite holiday place, and why?
- Do you have any bad habits that you know you could make more sustainable? Which and how?

Discussion phase

Prepare the classroom setting for the individual work. Equip each table with newspapers, glues, scissors, markers, blank sheets of paper. Prepare stamped descriptions from the platform or project it on the screen.

Great personalities

The students read the descriptions about celebrities who care about sustainability and inspire. They think and create the personality who is aware of sustainable development, has an action plan and his/her main pillars of the work. Remember: profession, what he/she supports, areas he/she focuses on, some interesting projects, propositions for the change. The students give him/her a name, draw it, or use newspapers to cut the picture, and write a plan.

Later everyone presents their creations and explains the project of the personality.

Debriefing part:

First ask questions to "the personalities" (film stars, cooks, workers etc.), then to your students:

- Why are film stars concerned about sustainability? Why are famous cooks concerned about sustainability?
- Are you concerned? Explain why.
- Do celebrities and rich people have to take more responsibility than the average citizen? Why?

Reflection and discussion when using videos

Silent Spring

The students watch the video (Duration 5:22) about how one scientist took on the chemical industry. Watch by clicking here

After watching the video they need to write the definitions for missing words on the part of the crossword in small groups (two groups). Another group has to guess the opponent's words. They ask the questions one by one.

Note:
You can find these crosswords on our homepage here

Brundtland Report

1st suggestion

The students watch the video (Duration 6:05) on the EdPuzzle platform and complete the tasks there. Watch by clicking here

EdPuzzle will give students the possibility to learn while watching the video. They cannot skip from one part to the next of the video and they will answer the questions on the platform.

Edpuzzle is a tool for creating interactive video presentations.

Instructions for the teacher on how to help students use Edpuzzle if needed can be found here:

Edpuzzle Tutorial for Teachers

Some of the main benefits of using Edpuzzle can be found here.

2nd suggestion

The students watch the video (Duration 6:23) about the Birth of Modern Sustainability. Watch by clicking here

Later they match the printed cards (or online on the platform).

Integrational Justice

The students watch the video (Duration 7:12) about how to be a good ancestor. Watch by clicking here

Then they read the problem:

You are the group of Ministers of the Environment and you are having a meeting about sustainable development. Most countries today have a Minister of the Environment. This Minister advises the Government on environmental issues. Only a few countries have a Committee for the Future. Finland has a Committee for the Future. It advises the Government on long-term, future-related issues.

- Do you think it is a promising idea to have a Committee for the Future?
- What top issues do you think such a committee should focus on?
- What is essential to take care of for future generations?

The students have 15 minutes to discuss the situation and find a solution. Everybody will be assigned a role. During the discussion, they need to adopt the attitude and characteristics of the assigned role. They have up to five minutes to enter the role. Before and during the discussion, do not reveal the role.

Discuss the final solution with the students and reveal the roles.

6 Thinking Hats: the roles to be printed.

Debriefing questions:

- What did you learn about the Committee For the Future?

- What ideas from the discussion would you like to propose for Ministers of the Environment in your country?

Note: You can find these documents on our homepage here.

Three pillars of sustainable development

Prepare the flipchart with colourful pillars (social, economic, environmental), 17 printed goals, printed descriptions (without names).

Note: You can find this document on our homepage here.

The students watch the video (Duration 4:17) about the three Pillars of sustainability. Watch by clicking here

The students connect the numbers (the goals) with the short description of the problem in small groups. Divide all the goals randomly in 2-3 groups.

After they must now how to match the goals with the pillars of sustainability.

- Is there only one possibility?

- Think of one of the goals, which could be placed in all three pillars and argue your point of view to your classmates.

Preserving natural resources is key to sustainable development

The students watch the video (Duration 6:07) about Theories and Principles of Sustainability. Watch by clicking here.

Individually the students identify pros and cons of having a single definition of sustainable development. They could compare it with the definition created in the beginning.

The students write down three things:

- What happens when the exploitation of nature of one nation has a negative effect on other countries? For example: deforestation, oil spills, plastic pollution, air pollution, or over-fishing? Discuss it.

Tasks can be solved in different ways

Suggestion 1

Recycle one of your favourite items

- You have to investigate on how to recycle one of your favourite items. It can be a piece of clothing or a pair of shoes, a toy that has broken, furniture, materials that you usually throw away, but which actually can be reused.
- You now have to investigate on how to prevent destroying your favourite items. It can be a piece of clothing or a pair of shoes, a toy that has broken, furniture, materials that you usually throw away after a longer or shorter time.

Suggestion 2

The students should create the scheme with Thinglink explaining how to recycle one of their favourite items. The teacher could suggest to students to put a map of their home town as the background of the thinglink scene, creating one button per each vintage shop or recycling point the students find (after an investigation in small groups).

Instructions for the teacher to help the students use Thinglink can be found here if needed:
Thinglink TUTORIAL: How to use Thinglink

Note: Link to the tutorial here.

Agenda 2030 – Sustainable development goals

Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 1, topic #4 Agenda 2030 2. Tutorial: How to create app with learningapps.org 3. Tutorial: How to create a poster with Canva 4. *Global Governance triangles* 5. Template *MGGs*	1. Newspapers, glues, scissors, blank sheets of paper 2. Printed colourful templates *MDGs* 3. Printed ***Triangles*** templates

Introduction to the topic

Start with a question for everyone:

- Are the people living in your country well-off compared to other countries?

Ask the following question, and ask the students to mime the answer, while the rest of the class guess the gift:

- If you could give every person in the world a gift, but it would have to be the same gift, what would that be?

Some questions to help the teacher to facilitate the discussion could include:

- Why do you think these gifts could be so valuable for everyone?
- Do you have something in common with your classmates concerning the gifts you chose for the entire population?

Discussion phase

Prepare the classroom setting for individual and group work. Equip each table with newspapers, glues, scissors, markers, and blank sheets of paper.

The five P´s

The 17 Sustainable Development Goals are categorized into the five P´s in order to better understand the overall interconnections of the goals and the ambitions of the Agenda 2030. The five P´s are called:

- People
- Planet
- Prosperity
- Peace
- Partnership

Based on the knowledge your students have they create a description for each "P" in small groups with an image (use newspapers, glues, scissors). After the presentation, share the definition from the platform.

Sustainable-meter

Ask the students to stand up. Explain that one part of the class room symbolizes the highest grade (10), the opposite part - the lowest. The students measure the aspects by importance by moving their bodies to one or the other part of the class room.

- They stand in the part of the room considering the importance of the aspects for them: poverty, climate change, hunger, economic progress, technological progress, peace, local partnership, global partnership.
- They measure what is more important for them as a problem. One corner is poverty, another - climate change; hunger - economic progress; peace - technological progress; local partnership - global partnership. Put the combinations as you prefer.

Note: You can put the numbers on the wall for better understanding. Discuss what is more important (hunger - economic progress). If the students think that some issues are on the same level, ask them why. Can we really compare all of them?

Reflection and discussion when using videos

UN Millennium Development Goals (MDGs), 2000 – 2015

Students read Millennium Development Goals to be achieved by 2015:

- To eradicate extreme poverty and hunger
- To achieve universal primary education
- To promote gender equality and empower women
- To reduce child mortality
- To improve maternal health
- To combat HIV/AIDS, malaria, and other diseases
- To ensure environmental sustainability
- To develop a global partnership for development

The students create an image or an icon for each goal, which represents in an easy and understandable way the content of the goals. Share with students the colorful template with markers. After the presentation, share the original ones.

The students watch the video (duration 4:36) about Origin Story of Millenium Development Goals. Watch by clicking here. After watching the video share the link with matching pairs.

Learning apps is a tool for creating interactive content.

Instructions for the teacher in order to create an app if needed can be found here:

Introduction to LearningApps.org

Some of the main benefits of using Learning apps can be found here

Students answer the following questions individually:

- Why should SGDs be more successful than the MDGs?
- What differences are more significant in your opinion?

The students watch the video (Duration 8:36) about SDGs aren't the same old. Watch by clicking here

In small groups students investigate how to move five "wrong way" targets to the right directions.

Stamp or project the targets and the scheme for better visual understanding.

- Target 2.1

By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.

- Target 11.1

By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.

- Target 13.2

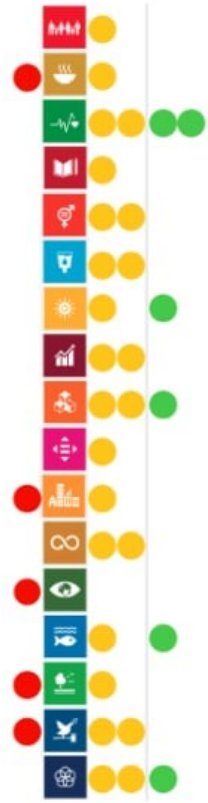
Integrate climate change measures into national policies, strategies and planning.

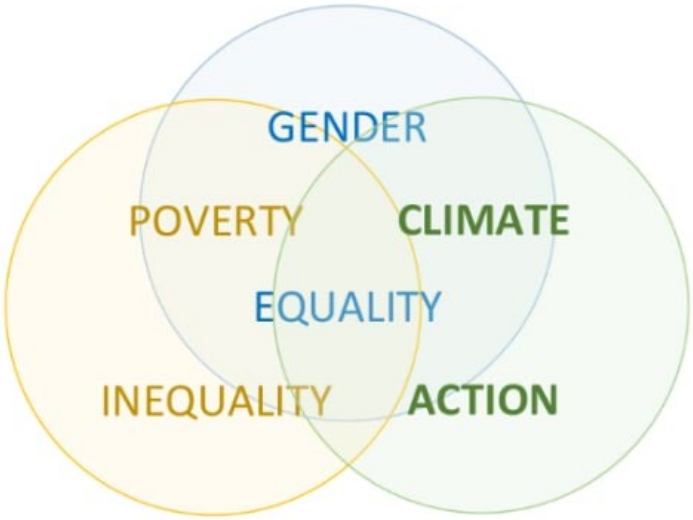
- Target 15.5

Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

- Target 16.3

Promote the rule of law at the national and international levels and ensure equal access to justice for all.





Some questions to help the teacher to facilitate the discussion can include:

- Why in your opinion did these targets go in the wrong direction?
- What kind of interaction with other goals and targets could help them to develop?
- How are all of them connected to the scheme A: gender equality, poverty inequality, climate change?
- Which of the 17 do you think could have the biggest impact on your life?

Resources for the task:

- Presentation from the video. / Goals and targets.
- Sustainable and unsustainable practices around the world.

The students watch the video (Duration 5:35) about Sustainable and unsustainable Practices Around the Globe. Watch by clicking here

Prepare a flipchart with two columns, where the headlines are: Palm oil production and Sea of plastic. Write in three rows: Where? (products); Danger; How to change it?

Later in small groups, they fill in the flipchart with the information from the video and additional one based on the knowledge from the lesson or from elsewhere. Remember to consider environmental, social and economic issues.

Some questions to help the teacher to facilitate the discussion could include:

- What is the problem with palm oil production? Why is it not considered sustainable? Think of social, environmental and economic aspects?
- What are the intended and unintended consequences of plastic use?
- In what daily activities could you practice more sustainability?

Global Governance

The students watch the video (Duration 5:35) #TheWorldWeWant - The world through your eyes. Watch by clicking here

Answer the questions:

- How does the world you want look like?
- Could a global organization like the UN help achieve that?

The students fill in the gaps in triangles with the events, actions, projects, programs for each level.

- What difference do you see between top-down and bottom-up processes?
- What events or actions could be only on one level? Is it possible?
- Where do you think the initiative should start from?

Task Global Governance.png
652.6 KB

Task can be solved in different ways

The students create a poster to inform children at the school about Agenda 2030. They can search the internet to find more knowledge about the subject or go to the library at the school.

The poster should include:

- An optional subject from the Sustainable Development Goals.

- Awareness of implications and problems of certain actions in order to change the way we do them.
- A text with a drawing of a change you suggest to your school.

Suggestion 1

Use Canva to create a poster or video poster.

Instructions for the teacher to help the students use Canva can be found here if needed:
Design Stunning Posters in Canva | Canva Tutorial
Poster Design With Canva | Flayer Design | Tourist Agency Design | Designtalk |

Suggestion 2

Use newspapers, scissors, glues, markers, colours, blank sheets of paper to create a poster.

Canva Tutorial link here and here.

2. Our Planet at risk

Humanity at a crossroad between Holocene and Anthropocene

Duration: 90 minutes.

Materials available	Materials needed
1. Let's Act! Lesson 2, Topic #1 2. Tutorial: How to use the *Ted-Ed* platform 3. Prepared video on *Ted-Ed* 4. Tutorial: How to create a poster with *Canva* 5. Tutorial: How to create *EdPuzzle* video lesson 6. *Brainwriting* form.	1. Newspapers, glues, scissors, blank sheets of paper 2. Green and red post-its 3. Printed colorful graphs 4. Printed *Brainwriting* form.

Introduction to the topic

The teacher prepares the classroom for group work with flipcharts and markers, starting with the question:

- If you could change anything in the world, what three things would it be and why?

The teacher asks the students in small groups to generate a list of challenge statements and write them at the top of a flipchart page. It should be the list of the things they would like to change. The students should then generate a list of 5-10 assumptions about the idea (the more basic the assumption the more likely they are to create a breakthrough idea). For each assumption, it is necessary to find what is the reverse of the assumption and list new insights. The teacher asks the groups to use these insights as a springboard to generate new ideas and share in plenary. Everyone chooses the three best ideas, based on what they liked the most, which are interesting for them. The exercise helps to generate novel and breakthrough ideas: when ideas are listed, assumptions are systematically reversed.

An example: I would like to see all the people recycle the waste.

The assumptions: I think it is easy to recycle; I think that the new generation is used to recycling.

Reverse assumptions: Recycling is easy when we know how to do it.

The possible insight: If someone will explain how to recycle people will start to do it more often.

The teacher asks the students to discuss the ideal family size.

Some questions that can guide the reflections can be:

- How many members should be in the family, why?
- What changes with the number of members in the family?

Discussion phase

Modern civilisations flourished during the Holocene

The teacher divides the students in pairs. The students receive the graph (or the teacher projects it on the screen).

Click here to go to the graph: Temperature of planet earth -Wikipedia/ Eemian Temperature of Planet Earth

The students examine the graph together and indicate the temperature fluctuations of the planet over the past millions of years. Then, they note how the temperature has stabilized during the Holocene. Then the teacher asks the students to make a brainwriting.

The teacher gives each pair a Brainwriting form. The students write three ideas on why the temperature during the Holocene has stabilized at the top of the form. Later students exchange their Brainwriting forms (each group passes the form to another group). In the new form, the teacher asks students to write at least two more ideas on the topic. It can be a new one or it can build on the ideas written in the previous one. The students swap forms again. They continue to swap forms until all the forms are filled out.

At the end of the exercise each couple presents their Brainwriting form to the whole class.

Brainwriting form.docx
80.1 KB

A new history for humanity - the human era

The teacher prepares the flipchart for each group with two big rows. The first one is divided into two small ones: Advantages and Limitations. The second row is Unique Connections.

The students watch the video (Duration 7:52) to determine if net zero pledges from companies have substance. Watch by clicking here

The main question for the group discussion is: Do you think it makes sense to change to use the Holocene calendar instead of the current Gregorian calendar?

The students explore the advantages and disadvantages of doing so.

The students may now take a closer look at each of two sides/perspectives and can move forward with one or several of these suggestions:

1. The students create a quick list of "Advantages." The teacher asks the students to list only the pros and not the cons. Some questions that can guide the reflections can be:

    - What do you like about the idea?

- What are its strengths? And what are its positive attributes?

2. The students create a quick list of "Limitations" where they express the concerns as open-ended questions that start with "How to … " or "How might we … " or "In what ways might we …" so that the group is open to problem-solving these concerns if the idea shows great potential.

   Some questions that can guide the reflections can be:

   - What are the issues or concerns with the idea?
   - What are the weaknesses or the trouble spots?

3. The students generate a list of "Unique Connections." Unique connections are the possibilities available for solving the problem.

   - What is the blue-sky potential of this idea?
   - What greater connection can you make into the world of "what if" and other possibilities?

4. The students consider the "Unique Connections" and use that possibility to determine which idea is the final for the group.

   The students present the result in plenary.

   Some questions that can guide the reflections can be:

   - Do you think it is essential to understand the history of ancient civilisations to understand the present? Explain why.

Reflection and discussion when using videos

The students watch the video (Duration 3:28) to understand how the industrial revolution followed by the great acceleration marks a new era of human dominance on Earth. Watch by clicking here

The students in groups or individually create a **wordmap** with the word Anthropocene. They need to write as many characteristics of the Anthropocene as they found in the video or they think could be relevant for the epoch. To write it, they have to use all the letters of the Anthropocene.

Example: A-acceleration, n-nitrous oxide, t-temperature etc.

The students watch the video "(Duration 5:50) to explore if human impact on Earth is now so substantial it justifies a new geological age - the Anthropocene. Watch by clicking here

After watching the video, students in groups create the open-ended questions for other groups based on the information in the video.

In order to foster the reflection, the teacher prepares two flipcharts and post-its. One which reads: the positive and negative impacts of industrialisation on humanity, and another which reads: the positive and negative impacts of industrialisation on the planet. To represent positive impacts students can use the green post-its; to represent negative red.

The students work in two groups for around 5-10 minutes. One group creates a list of the positive and negative impacts on humanity; the other group creates a list of the positive and negative impacts on the planet. One idea/impact per post-it.

Students glue all the ideas on the corresponding flipchart. The teacher gives them time to peruse the others' ideas and then ask the students: Do you think the human impact on Earth is so substantial it justifies a new geological age? Why?

The Great Acceleration

The students watch the video (Duration 3:13) to understand the Great Acceleration and how it resembles a hockey stick. Watch by clicking here

After watching the video, the teacher asks them: Which of the specific trends in the Great Acceleration intrigues you the most and why?

Based on the knowledge from the video and the reflection, students create the picture of the world in 200 years. Working in groups students can use the available materials such as newspaper, markers, glue, scissors to create a collage or they can use Canva to create an infographic/picture there.

Canva is a design tool where you can create content or use the templates that are already done.

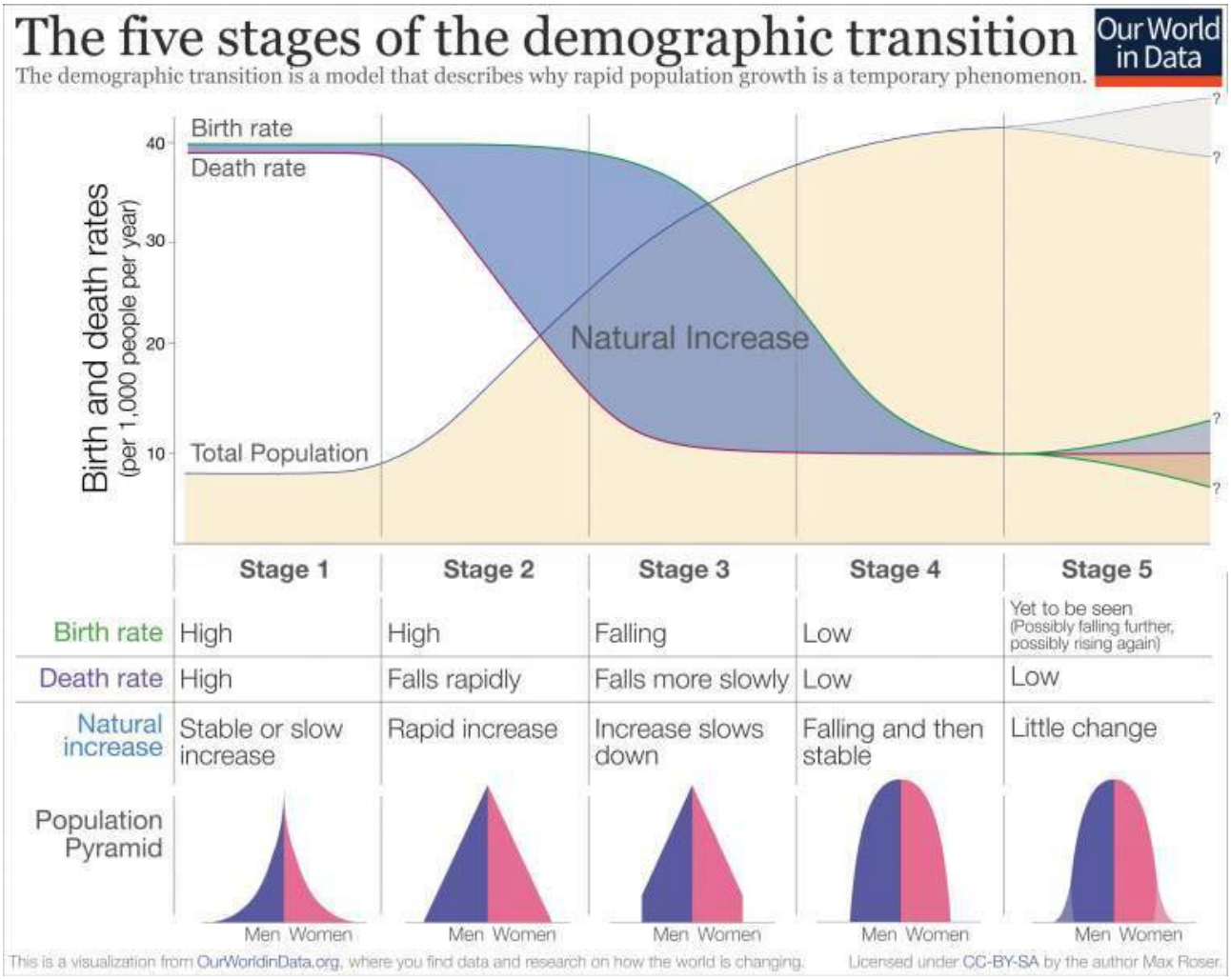
Instructions for the teacher on how to help students if needed can be found here:

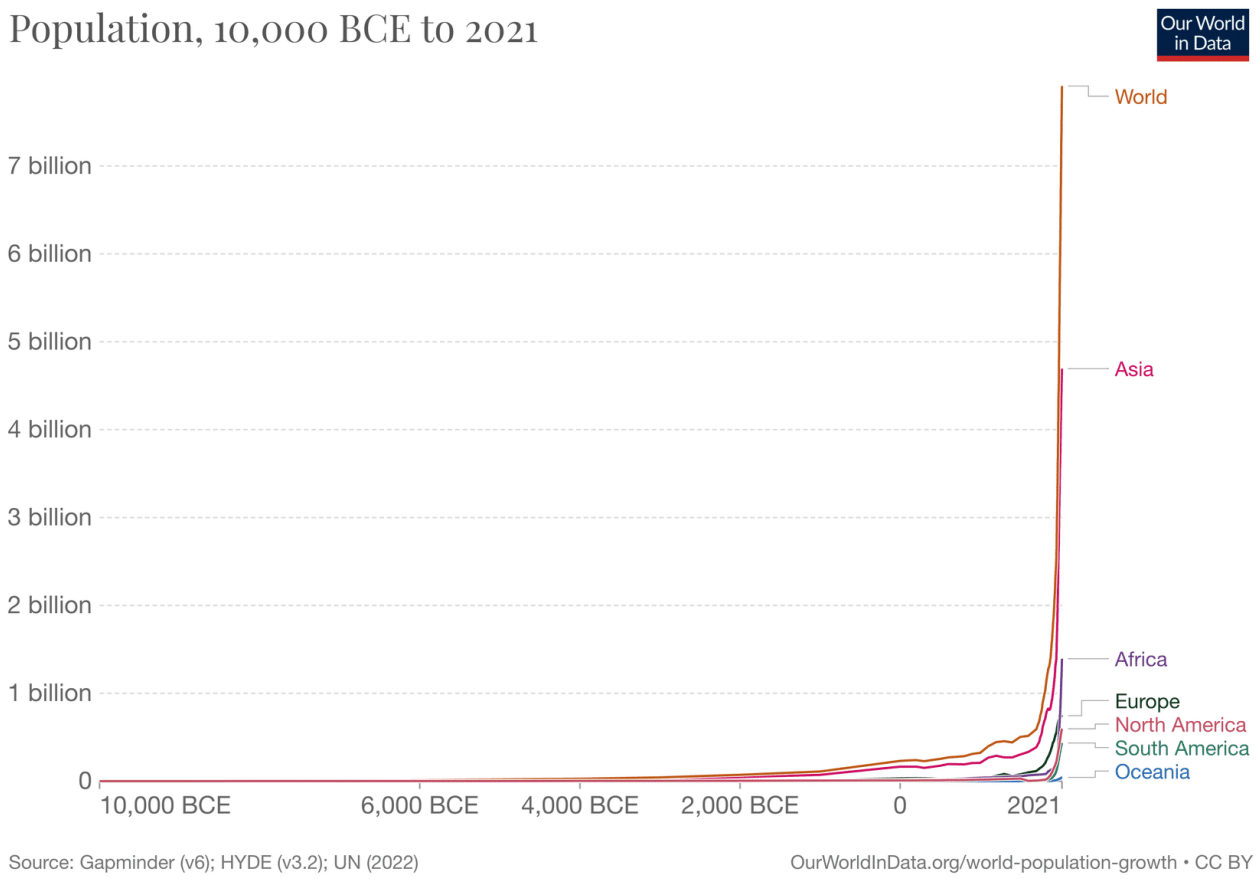
WATERCOLOR Art in Canva 🖌 Create your own beautiful Painting!

Some of the main benefits of using Canva can be found here

Population Growth

In the "hockey stick" graph students can observe the increase of the world population over the past 12,000 years. The students analyse two graphs and try to assume why population growth is a temporary phenomenon. The teacher asks them to write down the ideas individually.





The graph is from Our World in Data (https://ourworldindata.org/grapher/population)

To check the assumptions and find relevant information the students watch the video (Duration 6:31) prepared on EdPuzzle with the questions about The Demographic Transition Theory. Watch by clicking here

Edpuzzle is a tool for creating interactive video lessons.

Instructions for the teacher on how to help students and create own lesson if needed can be found here:

Getting Started with "EdPuzzle"

Some of the main benefits of using EdPuzzle can be found here

Global population transition

The students watch the video (Duration 5:01) to understand why examining population growth is important to predict future population trends and which tools can be used to present the current population demographic of a given place. Watch by clicking here

The video "Population pyramids: Powerful predictors of the future - Kim Preshoff " is on the platform TED-Ed with all the tasks inside with the questions about population pyramid and industrialisation, with additional resources and discussion about future population on Earth.

On Let's Act! students find a match exercise to help get the hang of the demographic concepts they have just learned about. The students need to match the explanations with the right concept.

TedEd is a tool for tracking video lessons.

Instructions for the teacher on how to help students use TedEd if needed can be found here:

TED Ed as Assessment Tool

How can TED-Ed be used to track your educational experiences

Some of the main benefits of using TedEdd can be found here

Tasks can be solved in different ways

An infographic is an excellent way to visualise the most important things to remember about a given subject. It can be made with newspapers, glue and markers by creating the collage, or it can be made digitally in Canva.

The teacher instructs the students to make an infographic about demographic transition and present it to the class.

When making an infographic about demographic transition, it is a good idea to show a timeline and the changing population with a diagram.

1. The students identify the location (town, city, country, continent, world) of their chosen demographic transition
2. Visualise how the population has changed over a given period, e.g., via a poster or a video. Explain how and why the population changed
3. Including an explanation of the demographic transition theory is optional
4. The students share their thoughts about the observed population changes in plenary

Planetary boundaries and tipping points

Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 2, Topic #2 2. Tutorial: How to create charts with ***Visme*** 3. ***Aliens*** activity 4. ***Making choices*** activity	1. Newspapers, glues, scissors, markers, blank sheets of paper 2. Printed ***Alien`s*** scenario 3. Printed ***Making choices*** activity 4. Printed graphs from Let's Act! (if needed)

Introduction to the topic

The teacher prepares the classroom for group work with flipcharts and markers.

As introduction and inspiration for the topic the students watch the video (Duration 2:08). Watch by clicking here

After watching the video, the teacher asks students individually to create food chains with at least four elements for their favourite food. It helps to raise awareness on the long process of production and our fast consumption.

- What is your favourite food?
- Where does it come from?
- Who is included in the creating process?

As an example: cappuccino from the best cafe = milk and coffee = coffee beans from Ethiopia - plantation of coffee beans - preparation - transportation to my country - transportation to the cafe + milk from the nearby village - fields with cows - milk a cow - transportation to the cafe.

The teacher prepares flipcharts (one per group, according to the amount of groups) with two columns: my generation and my parent's generation. The students answer the questions:

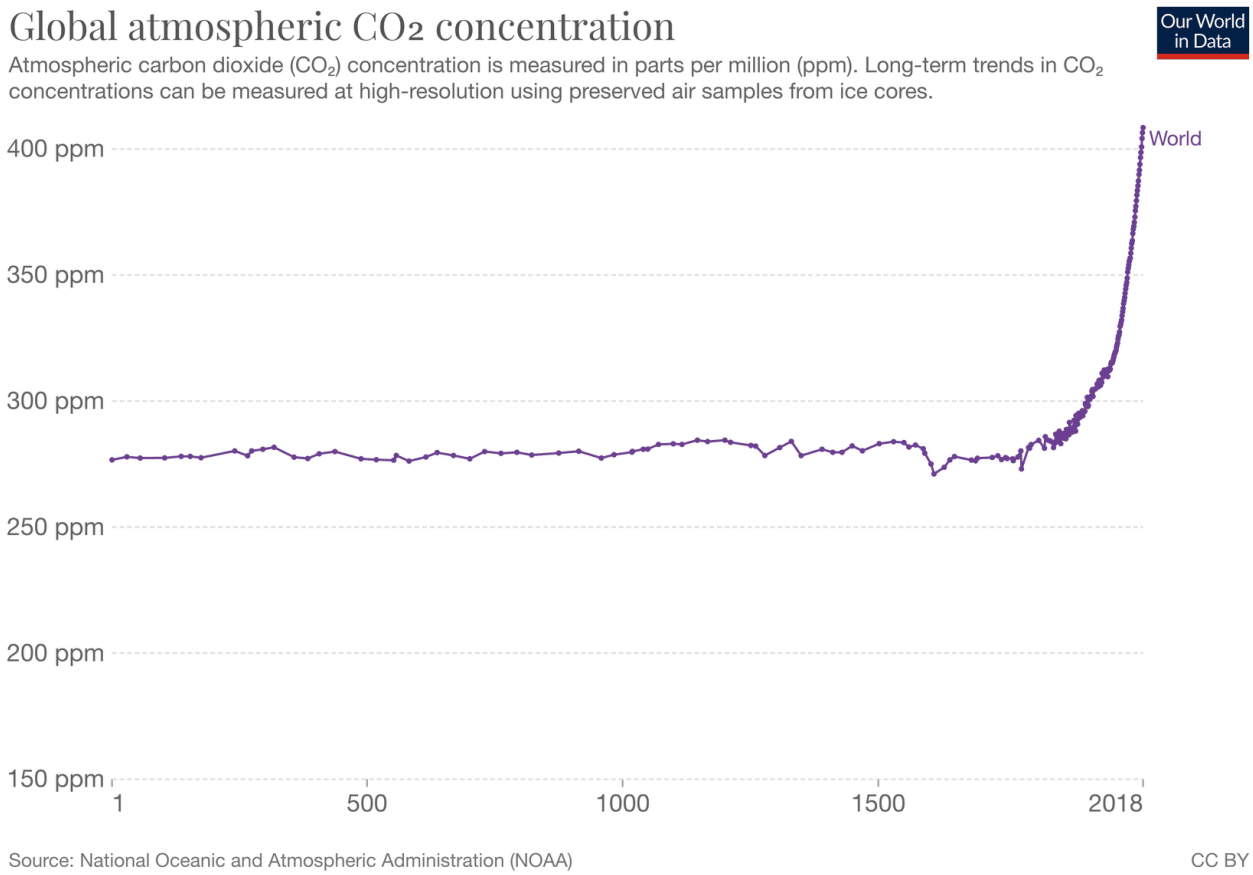
- What characteristics of environmental consciousness can you give to your generation and your parent's generation?

The teacher gives 5-7 minutes to brainstorm. Later the group explores combinations of parameters for potential solutions of environmental problems nowadays, choosing one-two parameters from each column to make unique and useful combinations of both generations. They make a separate list of all of these possible solutions and present them plenary.

Discussion phase

Carbon cycle and climate change

The students in groups analyse the chart from Let's Act! on Global atmospheric CO_2 concentration. The teacher asks the students to create a list of ideas why and when do they think was the biggest jump in CO_2 concentration in the world?



The graph is from Our World in Data (https://ourworldindata.org/explorers/climate-change?time=1..2018&facet=none&hideControls=true&Metric=CO%E2%82%82+concentrations&Long-run+series%3F=true&country=~OWID_WRL)

Biodiversity and ecosystem crisis

The students watch the video (Duration 5:40) with Sir David Attenborough and hear what he has to say about biodiversity. Watch by clicking here

Alien Travel activity

The teacher divides the class into two groups. The teacher prepares for each team a printed scenario with Aliens' questions for human beings and space to answer. The students have around 10 minutes to think.

Scenario 1.

You are conducting a tour for aliens who are visiting Earth and observing humans. You are all in their spaceship when you fly over a big metropolis. One of the aliens is confused, and turns to you for help. Try answering these questions:

- What is a big city, and why do humans live there?
- What are "factories" and why are they so important for humans?
- Why is it that the factory buildings seem to get more attention than other matters on your planet, like beautiful forests and animals?
- Why do humans get so purposeful and even violent when building factories and roads leading to them?
- What would happen if no human could ever build a factory again?

Scenario 2.

You are chatting with a group of aliens while walking on the biggest road in the city. While you all mingle, one of the aliens starts to speak about the industrialisation jump in the world. The alien turns to you and asks you the following questions:

- What is the industrialisation and why are humans so dependent on it?
- Why do you have grey air? From our books about the Earth it is supposed to be transparent.
- How does car pollution affect people?
- What legacy do these cars provide for future generations?

After the meeting with aliens students share plenary answers.
Some questions that can guide the reflections can be:

- Which was the most difficult question from aliens to answer?
- Why do you think they mentioned these topics?

Reflection and discussion when using videos

Earth resilience and tipping points

The students watch the video (Duration 3:59), where they will be presented with the role of the Arctic in regulating the climate and predicting the impacts of climate change. It will also introduce the difference between positive and negative feedback loops. Watch by clicking here

While watching the video the students enter in Mentimeter, where they need to write the main keywords of the video.

After watching the videos each student needs to create a statement with some of the words in the word cloud and explain to the others why they choose this word and why is it important.

Note: to use the presentation create an account on mentimeter.com and copy the presentation to your account.

Mentimeter is a tool for create lessons with instant feedback.

Instructions for the teacher on how to help students use Mentimeter if needed can be found here:

How to Create Your First Mentimeter Presentation - 7 Minute Crash Course Tutorial

Some of the main benefits of using Mentimeter can be found here

Some questions that can guide the reflections can be:

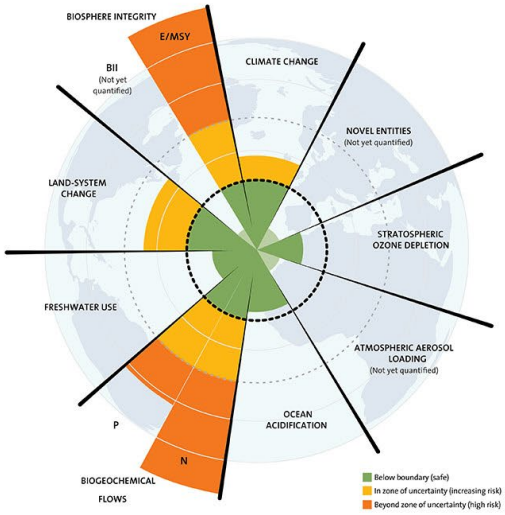
- Why is the Arctic like the canary in the coal mine? What do the two have in common?
- In what ways is the melting of the ice in the Arctic contributing to climate change?

The teacher uses the flashcards from Let's Act! or prints them to check if there is a positive or negative feedback loop.

- A company gets many complaints from its customers. The company resolves the issues that are complained about, and the complaints decrease.
- A country's economy is growing, resulting in more investments and increased jobs. Better incomes will increase spending and further business creation.
- Air temperatures rise, leading to more evaporation. Water is a greenhouse gas, so more water in the atmosphere leads to more significant global warming.
- Air temperatures rise, leading to more evaporation. Water is a greenhouse gas, so more water in the atmosphere leads to more significant global warming.

Planetary boundaries

The teacher asks the students to look at the graph Planetary boundaries on Let's Act! or print one and decide which four of these processes have transgressed their boundaries.



The planetary boundaries concept presents a set of nine planetary boundaries within which humanity can continue to develop and thrive for generations to come In 2009, former centre director Johan Rockström led a group of 28 internationally renowned scientists to identify the nine processes that regulate the stability and resilience of the Earth system.

The graph is from stockholmresilience (**https://www.stockholmresilience.org/research/planetary-boundaries.html**)

The students watch the video (Duration 7:36) Johan Rockström explains how we can transform the future of humanity in ten years. Watch by clicking here

The teacher gives each student the Making choices form and asks them to fill it in individually. Firstly, they identify three recent global environmental events that show we are destabilising Earth's systems. Then, the students make a choice:

Imagine you can do any three activities towards our planet to be a good friend. In return you must throw away three activities that destroy our planet.

Some questions that can guide the reflections can be:

- What environmental events are happening where you live that are caused by climate change?

Making choices.docx
288.5 KB

Tasks can be solved in different ways

Students have to make a graphically facilitated video.

In this task they can use graphic facilitation to show what planetary boundaries are, and how these can lead to planetary tipping points.

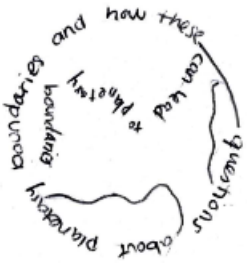
The students watch the video (Duration 4:10) for inspiration and new information. That will give them an understanding of the planetary tipping points, chaotic motion and their implications on climate change. Watch by clicking here

Suggestion 1 –

The students think about the main questions about planetary boundaries and how these can lead to planetary tipping points. After that they draw an icon that represents the planet earth, it can be a graphic or an illustration, in order to find inspiration the students can search some ideas on the Internet.

Once they have the image created they write the question on the outline, following the shape of the main line in order to create a visual poem.
The teacher exchange the poems and the students try to guess the meaning of the drawing and the answers for the question, after they exchange again, who guesses more meanings win!

Note: here is the example of the result.



Suggestion 2

Students create a graphically facilitated video using Visme using the option charts/graphs.

Instructions for the teacher in order to help the students how to use **Visme** if needed can be found here: "How to Create Charts and Graphs in Visme - Quick Start Tutorial"

Human action/inaction is fundamental

Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 2, Topic #3 2. Tutorial: How to use *Powtoon* 3. Tutorial: How to create videos with *Magisto* 4. Tutorial: How to use *Padlet* 5. Tutorial: How to use *Mentimeter* 6.Tutorial: How to use *Kialo* 7. *Emotional investigators* template 8. *Scheme Carbon sink* 9. *Mentimeter* presentation 10. *You know the rules* template 11. Template for an essay.	1. Newspapers, glues, scissors, blank sheets of paper 2. Green, red and other colours post-its 3. Printed *You know the rules* activity 4. Printed scheme *Carbon sink* 5. Printed *template* for an *essay*.

Introduction to the topic

Presentation of Human action/inaction topic

The teacher prepares the classroom for group work with flipcharts, newspapers, glues and markers.

Emotional investigators

The teacher divides students in groups and lets them choose three pictures from the newspapers that represent three emotions that they feel when they see the trash dumped in nature. It should be mentioned that they cannot reveal the emotions chosen to the other groups! The teacher asks them to write it on a separate paper to check the other group's answer later. They glue the pictures on a blank sheet of paper. The other groups will guess what emotion is represented in each picture and write in the table for answers. The group that guesses more is the winner!

Note: Example of the tables for the answers in the attachment

Emotional Investigators.docx
80.5 KB

Discussion phase

Reducing GHG emissions

The teacher asks the students to join the Mentimeter presentation collaborate.

In the prepared presentation the students will find questions about their previous knowledge, and graphs to be analysed and a video and final task.

Note: to use the presentation create an account on mentimeter.com and copy the presentation to your account.

Mentimeter is a tool for create lessons with instant feedback.

Instructions for the teacher on how to help students use Mentimeter if needed can be found here:

How to Create Your First Mentimeter Presentation - 7 Minute Crash Course Tutorial

Some of the main benefits of using Mentimeter can be found here

Advanced task:

Students go to the website Our World in Data and study the GHG emission curve for their country.

Suggestion: The teacher chooses one of the categories and asks students to use animated graphs to study data changing the year/different fossils or even compare different countries inside of the same period of time. To present a result, the teacher can ask to create a collage or short report/presentation.

Reflection and discussion when using videos

Differentiated approach and responsibility for GHG emissions

The students watch the video (Duration 10:32) to understand who is responsible for climate change. Watch by clicking here

After having watched the video the teacher arranges a short debate using Kialo. The main topic for debate is "Rich countries are responsible for climate change". Later the teacher asks the students to write pros and cons to the topic and comment on other ideas. The teacher reminds the students that the problem is controversial, and that the class creates a debate to find out more information and ideas for solutions, not for arguing or blaming someone.

Kialo is a tool for create debates.

Instructions for the teacher on how to help students use Kialo if needed can be found here:

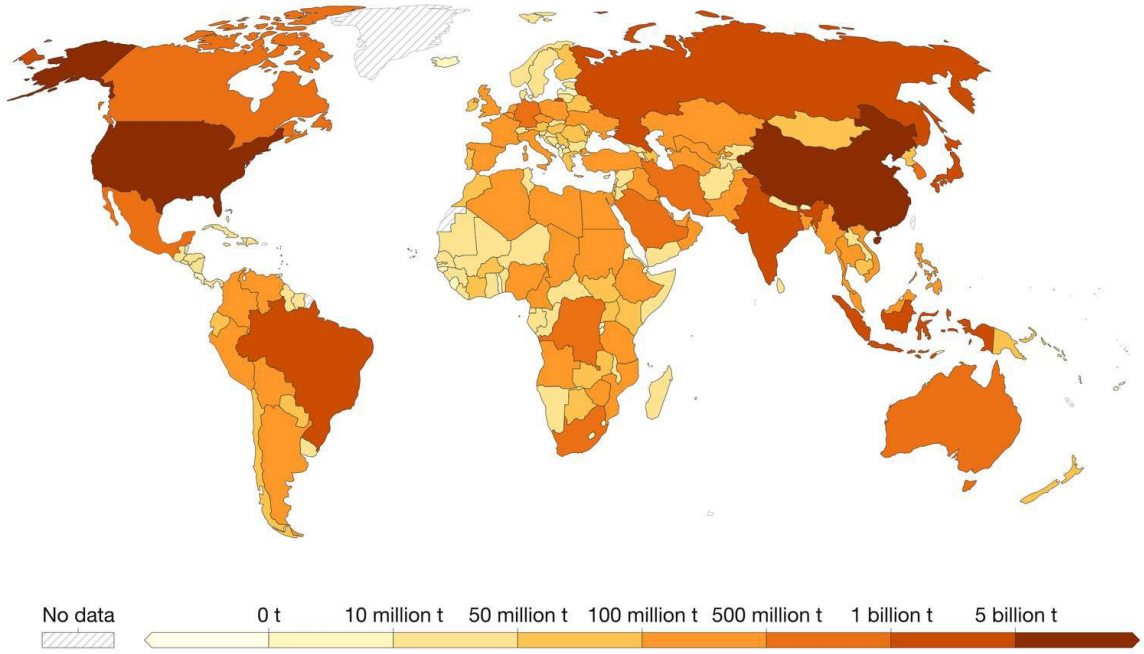
How to Have a Classroom Debate Online with Kialo Edu.

The teacher divides students into groups. The students compare total GHG emission and per capita GHG emission of China, India, Mozambique, UK, US and their country using the two Our World in Data maps below (digitally or printed version).

Total greenhouse gas emissions, 2019

Our World in Data

Greenhouse gas emissions[1] are measured in carbon dioxide-equivalents (CO_2eq)[2] .
Emissions from land use change – which can be positive or negative – are taken into account.



Source: Our World in Data based on Climate Analysis Indicators Tool (CAIT).
OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY

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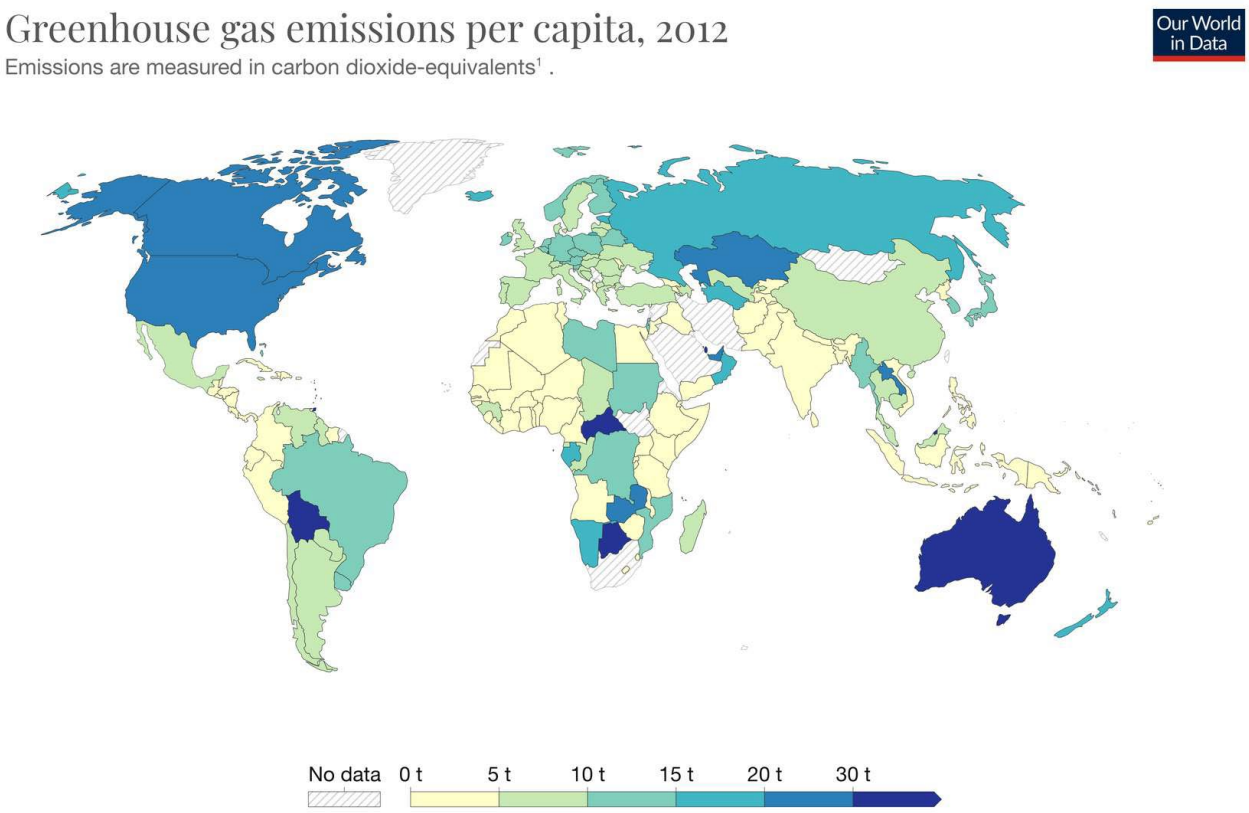
1. Greenhouse gas emissions: A greenhouse gas (GHG) is a gas that causes the atmosphere to warm by absorbing and emitting radiant energy. Greenhouse gases absorb radiation that is radiated by Earth, preventing this heat from escaping to space. Carbon dioxide (CO_2) is the most well-known greenhouse gas, but there are others including methane, nitrous oxide, and in fact, water vapor. Human-made emissions of greenhouse gases from fossil fuels, industry, and agriculture are the leading cause of global climate change. Greenhouse gas emissions measure the total amount of all greenhouse gases that are emitted. These are often quantified in carbon dioxide-equivalents (CO2eq) which take account of the amount of warming that each molecule of different gases creates.

2. Carbon dioxide-equivalents (CO_2eq): Carbon dioxide is the most important greenhouse gas, but not the only one. To capture all greenhouse gas emissions, researchers express them in 'carbon dioxide-equivalents' (CO_2eq). This takes all greenhouse gases into account, not just CO_2. To express all greenhouse gases in carbon dioxide-equivalents (CO_2eq), each one is weighted by its global warming potential (GWP) value. GWP measures the amount of warming a gas creates compared to CO_2. CO_2 is given a GWP value of one. If a gas had a GWP of 10 then one kilogram of that gas would generate ten times the warming effect as one kilogram of CO_2. Carbon dioxide-equivalents are calculated for each gas by multiplying the mass of emissions of a specific greenhouse gas by its GWP factor. This warming can be stated over different timescales. To calculate CO_2eq over 100 years, we'd multiply each gas by its GWP over a 100-year timescale (GWP100). Total greenhouse gas emissions – measured in CO_2eq – are then calculated by summing each gas' CO_2eq value.

https://ourworldindata.org/grapher/total-ghg-emissions



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https://ourworldindata.org/grapher/ghg-emissions-per-capita

The teacher then gives the students two sheets of paper: one for Total GHG emission; and another for GHG emission per capita. The teacher hands out post-its with the name of the countries (China, India, Mozambique, UK, US and own country) as well. The students need to order the countries depending on the results they find out from the charts from the highest amount of emission till the lowest one.

Some questions that can guide the reflections can be:

- Did you find any surprising results? Share them.
- How did you change your mind about your own country compared to others?

The students watch the video (Duration 7:20) to learn about Net zero and why it can be difficult to achieve. Watch by clicking here

After watching the video, the students individually fill the form You know the rules. The rules and laws we have in life are meant to guide us and protect us, and to keep order in our society. The students should imagine that they have to make three rules that everyone in the world must follow to be closer to net zero.

Some questions that can guide the reflections can be:

- Which ideas could be implemented and realised in the near future?
- Why could it be difficult to achieve Net zero?

Strengthen biodiversity and ecosystems by planting trees

The students watch the video (Duration 2:00) to understand what carbon sinks are. The video also informs on how to distinguish between natural and artificial carbon sequestration techniques, as well as their limits. Watch by clicking here

The teacher puts on the wall/blackboard the names of the sinks: Oceans and Forests. After watching the video the teacher divides the students into groups of 3-4 persons. The students discuss advantages and disadvantages of using natural carbon sinks as oceans and forests and artificial technologies. The students write the advantages on green post-its and the disadvantages on red post-its. Later the teacher asks students to put them next to the natural sink a:

- 3 Billion Trees Pledge
- #TEAMTREES

Some questions that can guide the reflections can be:

- Browse the internet to investigate, what is your country doing to plant trees?
- What can you do to positively affect the natural sinks?

It is also possible for your school to join the project.

Oceans - a natural sink

The students watch the video (Duration 4:51), to learn about trophic cascades and how whales help sustain the entire living system of the ocean. Watch by clicking here

The students will also understand why increasing the number of whales in the oceans can help reduce GHGs in the atmosphere and why they are indeed climate heroes.

Silent sharing

This is an exercise for visualisation and non-verbal communication. It involves conversing with writing and drawing to develop reflection and deliberate thinking. The teacher divides students into groups of two or three. Each group gets their own flipchart with a question to consider. The students reflect on the question and then begin communicating about it using only writing and sketching in the flipchart.

The questions to be discussed:

- Try to quantify the worth of one whale
- What are the major natural carbon sinks of the world?
- What is the main obstacle with natural carbon sinks?
- Can natural sinks alone solve climate change?

Tasks can be solved in different ways

In this task, students are going to choose one of the four topics below: forest, land, ocean or insects. There is a website for each topic the students have to explore. Here they can do their independent research (individually or in groups) and deliver the related product. The students can also choose what kind of product they want to present to the class.

An essay

What are your knowledge and thoughts on the topic?

A collage

How can you visualize both the challenge and the possibilities regarding the topic?

A video

How can you communicate both the challenge and the possibilities regarding the topic by producing a multimodal text?

The students must choose and emphasise some of the actions they can take to help the circumstances for the chosen topic. They also have to consider what actions they could take in their own everyday life. The students explore the website for the chosen topic.

- Forest: Visit Regeneration – Boreal forest
- Land: Visit Regeneration – Degraded land restoration
- Ocean:Visit Regeneration – Ocean Farming
- Insects: Visit Regeneration – Insect Extinction

Suggestions:

- How to write an interesting essay

Give your students a template which can help them to write an essay. Find inspiration here in Essay Tips: 10 Steps to Writing a Great Essay (And Have Fun Doing It!).

- How to visualize both challenges and possibilities about the topic in the collage?

The students can post all the elements (such as challenges and possibilities about the chosen topic and their ideas to take an action) on a Padlet "Canvas" shared with the group. The teacher is the one creating a blank canvas padlet and sending the link to the students who will post the ideas. Later everyone in the class will have the possibility to have a look at all the ideas.

Padlet is a collaborative tool for sharing, organising and evaluating the lessons.

Instructions for the teacher on how to help students use Padlet if needed can be found here:

Padlet Tutorial for Teachers.

Some of the main benefits of using Padlet can be found here

- How to communicate both challenges and possibilities in a multimodal text?

The students can use Powtoon to create an interactive video with characters who are explaining the problem. Or they can record videos of themselves and edit them in Magisto using their phones or the desktop version.

Instructions for the teacher on how to help students use to use Powtoon and Magisto if needed can be found here:

How To Use Powtoon | Tutorial For Beginners

Magisto - Smart Video Editor & Maker

Some of the main benefits of using Powtoon can be found here

Building the future we want

Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 2, Topic #4 2. Tutorial: How to use *Miro* 3. Global *commons* templates 4. *What would happen* template 5. *SWOT analysis* template 6. *Action plan* template.	1. Newspapers, glues, scissors, blank sheets of paper 2. Post-its and sticky-notes 3. Printed *Global commons* templates 4. Printed *What would happen* template 5. Printed *SWOT analysis* template 6. Printed *Action plan* template.

Introduction to the topic

The teacher prepares the classroom for individual and group exercises.

The teacher presents students with Gandhi's quote:

The future depends on what you do today.
- Mahatma Gandhi

What would happen?

This exercise is designed to help students think laterally and discover new ways of looking at the world. Answering the questions helps to unlock creativity and constructive thinking. Students can use as much detail as they like. For more fun, try to think of your own "What Would Happen?" questions!

The teacher shares the form What would happen with the students for individual work.

Some questions that can guide the reflections can be:

- What were the most surprising consequences you found?
- Share your own question with the classroom.

What would happen.docx
79.8 KB

Discussion phase

Precautionary principle

The students watch the video (Duration 3:25) on how the precautionary principle can help us avoid disastrous situations. Watch by clicking here

The teacher gives students the group task to fill in a SWOT analysis table for reflection of the video they watched. SWOT is a framework for identifying and analysing strengths and weaknesses as well as opportunities and threats in projects, organisations and businesses. When it comes to significant changes in life, it involves a lot of information gathering, thinking and analysing. Conducting a SWOT analysis to any kind of problem can help to avoid unforeseen mistakes and create strategic planning because it requires addressing the strengths, weaknesses, opportunities, and threats.

SWOT Analysis.png
39.8 KB

The goal of the activity is to analyse which risks your students think are reasonable to take regarding climate change.

Some questions that can guide the activity can be:

- Strengths:
    - What are the advantages of taking risks regarding changing the attitude to climate change?
    - What can everyone do for nature every day?
    - What do scientists already have done about climate change?
    - What examples of active action can you provide?
- Weaknesses:
    - What stops you and other people from active actions?
    - What do you, other people or the state need to improve or change to increase the awareness of climate change?
    - What actions are you doing every day that have a harmful effect on the climate and that are easy to exclude?
    - In which countries are people lacking resources about climate change?
- Opportunities:
    - What new technology can people use?
    - How can people expand their actions to protect nature?
    - Who can be the most efficient in these actions?
- Threats:
    - What could be the worst result of people's inaction?
    - What could be the biggest risk to take action?
    - Where can your personal actions and inactions regarding the climate change problem lead to?

After analysing strengths, opportunities, weaknesses and threats, the teacher asks the students to point out up to five reasonable risks. Then each group shares the results in plenary while the teacher writes the information on the board or flipchart.

To finish this activity each of the groups create a letter for a national politician asking him or her to take more responsibility for one or several of the topics discussed.

Reflection and discussion when using videos

Adaptation and mitigation

The teacher divides students into two groups.

One group watch the video (Duration 5:24). This video is about one of the world's most sophisticated flood prevention projects. This is an example of some of the possible ways we can adapt to climate change. Watch by clicking here

Another group is watching the video (Duration 4:47) that explores how animals adapt to climate change. Watch by clicking here

After watching the videos the two groups prepare a list of key points for human and animal ability to adapt to climate change. The students now share their lists in plenary.

The second part of the task is to identify three examples of mitigation and three examples of adaptation measures their country is implementing to adapt to climate change, using the knowledge they have acquired regarding climate adaptation and mitigation during the previous lessons. Groups switch their original topics with each other and try to identify the examples for mitigation and adaptation in the other video.

Some questions that can guide the reflections can be:

- What three criteria did you find most important?
- What is more important, mitigation or adaptation?

Caring for the commons

The students watch the video (Duration 4:58) to learn what the tragedy of the commons is and how to avoid it. Watch by clicking here

After watching the video each group should reflect on similar challenges that nations today have to come to agreements upon when caring for the commons. Each group is working with different global commons. One group is identifying an example for the ocean and freshwater, another for climate and biodiversity, and the last for forest and wetlands.

The teacher shares the template Global commons – solution with the students.

Global Commons Climate- Solution.png
145.3 KB

Global Commons Forest - Solution.png
143.3 KB

Global Commons Ocean- Solution.png
150.3 KB

The students need to identify the challenge, find three possible reasons why the problem could occur and propos a solution. The exercise contributes to the improvement of critical thinking, involves problem-solving and mindful communication, as the students are solving the problems collaborating with each other, and a freedom from bias or egocentric tendency.

Some questions that can guide the reflections can be:

- Did you find any common solution for the groups of commons?
- Which common has more challenging situations compared to others?

Examples that inspire: the ozone hole

The students watch the video (Duration 8:35) to learn more about what we can learn from the approach taken to address the hole in the ozone layer? How is it relevant to how we must address GHG emissions? Watch by clicking here

The teacher asks the class to form a circle. One person begins a story about examples that inspires, the next person continues the story by adding something related to their previous sentence. The story lasts for two or three circles. The last person in the circle should try to finish the story with a happy end. This is the goal of every environmental challenge.

Some suggestions to begin the story:

- When scientists discovered that the ozone hole is getting smaller, they …
- When scientists discovered that they have a new problem with GHGs they …
- When scientists discovered that every year the temperature kept on rising, they …

Note: If the class is big it is better to form two or three groups in order for everyone to participate actively.

Tasks can be solved in different ways

The students watch the two inspiring videos from the influencer Mr Beast who has started an initiative for cleaning beaches, rivers and oceans and planting trees all around the world.

The students watch the two inspiring videos from the influencer Mr Beast who has started an initiative for cleaning beaches, rivers and oceans and planting trees all around the world. Watch by clicking here and here

The teacher divides students into two groups: TeamSeas and TeamTrees. Each of the groups have to create an action plan for implementing the idea from the video: to clean water and plant trees in the local environment. The teacher shares with students the action plan template and explains the idea.

1. The students begin with a solution statement beginning with "What I see myself doing is ..../ what we see ourselves doing is…"
2. Using sticky notes, they generate a list of all the possible actions (one action per sticky note) that might be taken in order to make the solution a reality.
3. The groups generate possible sources of assistance (assisters) and possible sources of resistance (resisters). Later they generate actions to leverage assisters or overcome resisters. They use the sticky notes as well or write all the ideas in one sheet of paper as a brainstorming activity.
4. The groups arrange the actions into clusters of "short-term," "medium-term," and "long-term" actions and then they determine the time frames based upon the situation.
5. Within each cluster, the groups arrange the steps in order.
6. For each action, they specify who will be responsible and when it will be completed. Each step should also have someone who will check to ensure things are getting done. Make sure that the groups create at least one action that can be completed in the next 24 hours – this will jump-start the process, making the proposed solution a reality.
7. The groups transfer the What, Who, By When, and Who Checks to a table for tracking. If needed, additional criteria can be added: "How," "With Whom", "Why," "Start Date," and "Success Indicators."

Suggestion 1

The teacher prepares all the materials needed such as flipcharts, markers, sticky-note, newspapers, glue, and scissors to give students the possibility to create their own action plan based on the template and their creativity.

Suggestion 2

The teacher shares the Miro digital mind map to allow everybody to collaborate online. Participants put their ideas into Miro by using sticky-notes, links and pictures.
Before sharing, the teacher needs to create an account to collaborate with the students. The prepared ***Miro board*** includes the Action Plan with three columns To do; In progress; Done with daily and weekly review.
The prepared board Action plan is here.

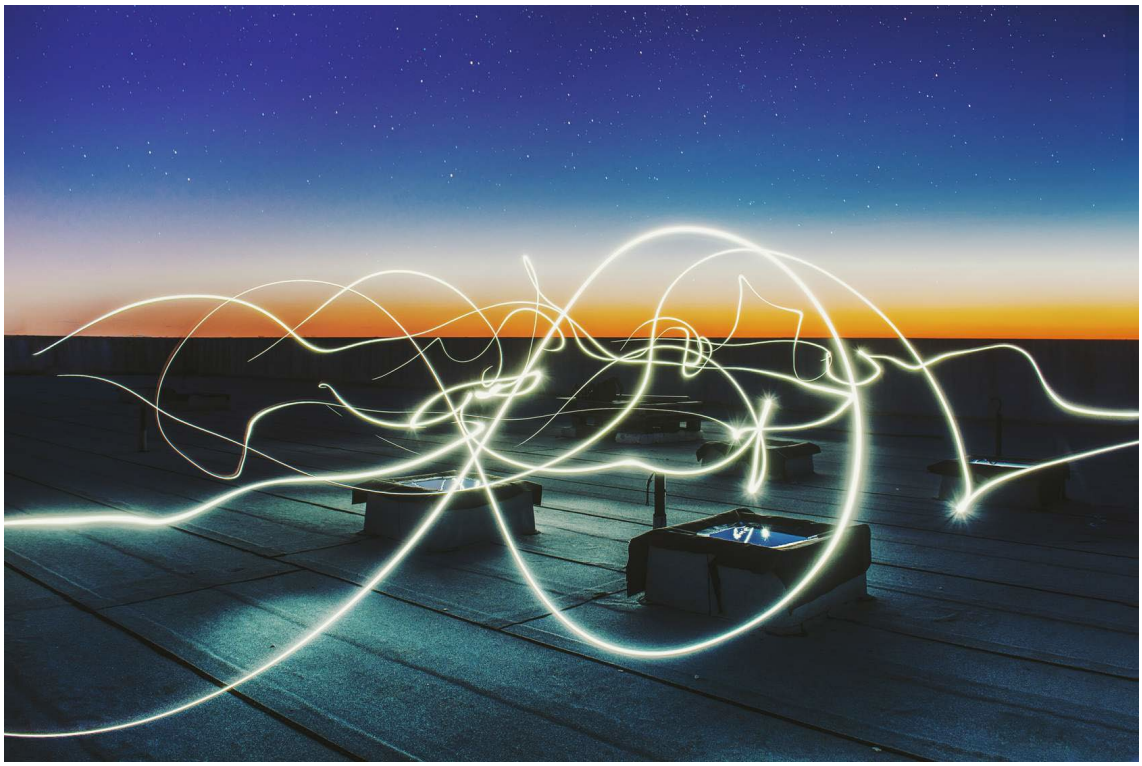
Please find instructions for the teacher in order to help the students to use Miro here: How to get started with Miro. Board Basics: making your first Miro board.

Link to the prepared Action Plan is here:
Miro

Instructions for the teacher in order to help the students to use Miro:
How to get started with Miro. Board Basics: making your first Miro board

3. Energy at the core of the problem and the solution

Energy as enabler of human and economic development



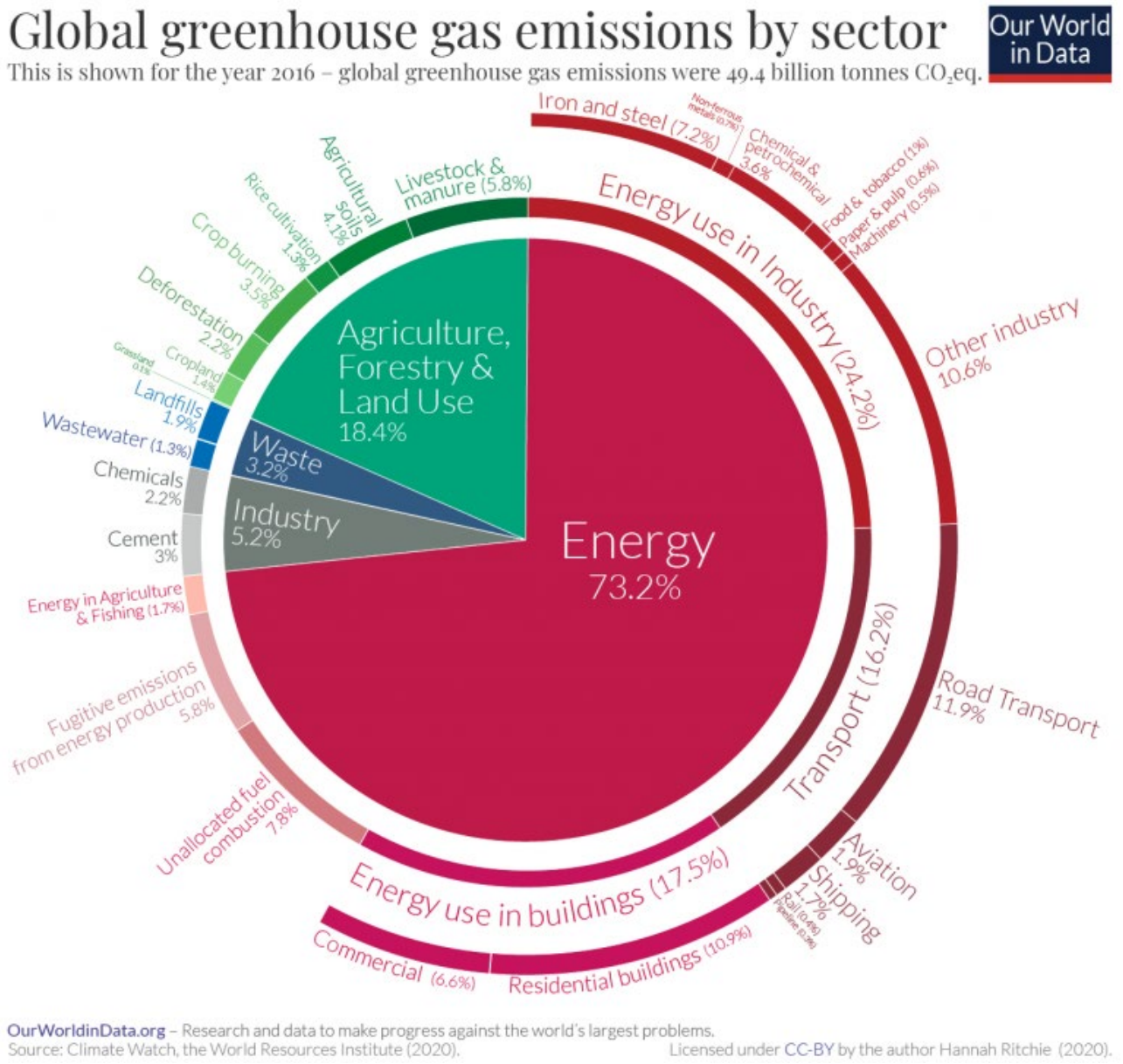
Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 3, Topic #1 2. Tutorial: How to use Jamboard 3. Tutorial: How to use Prezi 4. Tutorial: How to use Baamboozle 5. GHGs emissions by sector scheme 6. The energy paradox template 7. Magical night template 8. The energy progress report table	1. Printed The energy paradox templates 2. Printed Magical night templates 3. Printed GHGs emissions by sector scheme 4. Printed The energy progress report table

Presentation of Energy as enabler of human and economic development

The teacher prepares the classroom for individual and group exercises.

The teacher shares the scheme Global greenhouse gas emissions by sector either printed or online. The students in groups should analyse it and come up with ideas to answer the question: how can you personally reduce GHGs emissions?



The chart is from Our World in Data (**https://ourworldindata.org/ghg-emissions-by-sector**)

Sector by sector: where do global greenhouse gas emissions come from?

Let's walk through each of the sectors and sub-sectors in the pie chart, one-by-one. Energy use in industry: 24.2% Iron and Steel (7.2%): energy-related emissions from the manufacturing of iron and steel. Chemical & petrochemical (3.6%): energy-related emissions from the manufacturing of fertilizers, pharmaceuticals, refrigerants, oil and gas extraction, etc.

Each group presents the ideas in plenary.
Some questions that can guide the discussion can be:

- Which sector did you choose as the first one to start your actions?
- Which sector certainly needs the intervention of the government?

Discussion phase

The Energy Paradox

The students watch the video (Duration 2:51) to understand why access to modern energy is so crucial for human and economic development and why it is essential that we meet the SDG7 of assuring access to all by 2030. Watch by clicking here

While watching, they should take notes about the strategy used by the company and about the obstacles they met.

After watching the video, the students in groups should create a strategy for bringing electricity to the villages in Nigeria, Chad and the Democratic Republic of Congo.

The students fill in the template The energy paradox for the village they chose. They can check the real names or create their own. The inspiration for the strategy, set of conditions and obstacles can be taken from the video above, two proposed web pages, additional sources and previous knowledge. The students present their strategies in front of the classroom.

The energy paradox.docx
120.3 KB

Some questions that can guide the discussion can be:

- What is the most important reason why they need electricity?
- Who is responsible for the lack of electricity in your opinion? Why?
- Which green idea are you most proud of?

The students watch the video (Duration 9:22) to better understand how sub-Saharan Africa can gain access to energy without increasing CO2 emissions as most Western economies have done. Watch by clicking here

After watching the video, the teacher divides the students into two groups.

The first group represents the idea "When it comes to gaining access to energy we leave no one behind" while the second group represents the opposite idea "Countries with less access to electricity should find their way by themselves". Groups have around 10 minutes to think about good arguments for their main idea. Later they present it in plenary.

- What could be the ideal solution for the countries with less access to electricity?
- If we manage to leave no one behind, how do we also make sure it does not lead to an increase in CO2 and GHG emissions

Reflection and discussion when using videos

Access to modern energy through SDG7

The teacher divides the students into 3 groups according to four distinct sub-goals of SDG7. (The groups are 7.1, 7.2 and 7.3-7.4). The task for the students is to collect information from the proposed sources and prepare a short presentation (around 5-7 minutes) to share with the class (it can either be a short speech or any online presentation: Powerpoint, Canva, Jamboard, etc). Later, they can use the Baamboozle application to check the classmates' understanding of the topic. The students create a public Baamboozle quiz for their classmates to play in the classroom.

7.1 Access to electricity

IEA - Access to electricity

The students watch the video (Duration 2:28) about grid access and find out how to develop systems to provide electricity for people who don't have it. Students learn about the challenges that come with the development of electricity. Watch by clicking here

The students watch the video (Duration 2:26) about Off-grid access and find out what kind of challenges you can encounter when providing electricity to people in rural areas. Watch by clicking here

Some questions that can guide the reflection can be:

- What positive results of national actions did you find?
- What was the impact of COVID-19?
- How can you compare the dates for Asia and Africa?
- What challenges did you find that come with the development of electricity?
- What challenges did you find when it comes to providing electricity to people in rural areas?

7.2 Access to clean fuels for cooking and heating

IEA - Access to clean cooking

The students watch the video (Duration 2:58) and learn about how clean cooking is a big challenge for some and what significance it has for their lives. Also, learn about available solutions to these issues. Watch by clicking here

Some questions that can guide the reflection can be:

- What region has the biggest problem with access to clean fuels for cooking and heating?
- What consequences does the lack of clean fuels for cooking and heating have for people?
- What are the solutions for this challenge?

7.3 Renewable energy and 7.4 Energy efficiency

Renewable energy
IEA - Modern renewables

Our World in Data - Renewable Energy

- What kind of renewable resources did you already know/did you find out?
- Think about the examples of items with energy provisions coming from renewable energy? Do you personally use one?
- What kind of renewable source do people use the most?
- Would you like to use renewable sources for electricity/something else? Energy efficiency

IEA - Energy intensity

Some questions that can guide the reflection can be:

- How conscious are you of energy waste?
- How could you reduce or make your energy consumption more efficient?
- What could help us using energy more efficiently?

Jamboard is a collaborative whiteboard.

Bamboozle is an educational game tool.

Instructions for the teacher in order to help the students use Jamboard and Baamboozle if needed can be found here:

How To Use Google Jamboard Tutorial For Teachers & Students - 2021 Guide

The only ESL game website you'll EVER need | Baamboozle Teacher tutorial

Some of the main benefits of using Jamboard can be found here and bamboozle here

SDG7 as an enabler of many SDGs

The teacher gives a template Magical night to each student for individual work.

Magical night.docx
116.1 KB

This activity helps students dig deeper into a problem and understand/imagine what could happen if they were in a similar situation. To create the atmosphere of a magical night the teacher can turn off the lights, put some calm music on and ask everyone to stay silent while imagining the situation and answering the questions.

After the exercise, the teacher asks volunteers to share their findings (difficulties during "the day", what has changed in their minds).

Visualization requires students to weave together their own background knowledge, to connect with their feelings and to foster creativity. Making images in their minds will help them develop critical thinking skills.

Choosing our Energy

The students watch the video (Duration 2:03) where they can explore how and why gaining access to energy can be a challenge. Watch by clicking here

The students watch the video (Duration 2:52) explores how countries select their energy supply sources. Watch by clicking here

After watching, the students, divided in small groups, create a list of characteristics: what source of energy should everyone have?

Later the students analyse The energy progress report for SDG7 where they will find information about access to electricity and clean cooking, renewable energy, energy efficiency, renewable capacity per capita, international financial flows and overall country value. Using the charts they should fill in the table The energy progress report with percentages.

The energy progress report_.docx
121.4 KB

After filling in the table, the groups share their ideas about:

- what can each of these countries do to help meet SDG7?
- What kind of barriers might people encounter when transitioning to modern sources of energy?

Tasks can be solved in different ways

The students explore and choose one of the three spheres of social inclusion which are health, education and gender equality in their local context.

They later join the group of their interest. The teacher should check if the number of participants is similar in each group.

The students can use the previous knowledge, proposed resources and creativity to complete the task.

World Access of Modern Energy - The Issue

World Access of Modern Energy - Publication - energy access and its nexus in english

Students prepare a presentation to share in front of the class. This work should include the following topics:

- Explaining why access to energy is essential when it comes to enabling social inclusion
- How would they ensure that no one is left behind when it comes to energy accessibility
- Steps needed to get there

The students can create an animated presentation using the Prezi application which allows them to use a template.

Prezi is a tool for creating animated presentations.

Instructions for the teacher in order to help the students use Prezi if needed can be found here:

How To Use Prezi Present | Tech Tutorials for Teachers

Song about Energy

The students make their own Song about Energy, individually or in groups, using the knowledge of statistics about Sustainable Development Goal 7, including many challenges and opportunities related to gaining access to modern energy.

After a brainstorming phase about energy consumption, the students tell their own stories in a song. The song must have a minimum of three verses, and it can be based on a melody that they already know and think fits the song.

Suggestion 1

The students could use this webpage to create music and to write more interesting and creative rhymes.

The songs are then shared in the classroom. The teacher could organize a competition by allowing students to vote for each song. The students can rate creativity, composition of the melody and text, and connection with SDG7. The voting process could be implemented just by raising a hand every time the teacher names the song and the category to be evaluated.

Suggestion 2

Students choose a famous song and create their Song about Energy based on that melody. Later, while presenting the song other students should try to guess the original one.

A just and equitable energy transition

Duration: 90 minutes

Material available	Material needed
1. Let's Act! Lesson 3, Topic #2 2. Tutorial: How to use Socrative 3. Prepared Socrative quiz Leaving no one behind in Global South 4. Money 5. Monthly budget 6. CV 7. Share of global cumulative CO2 emissions table 8. Triangle 3D template 9. Tutorial: How to use Genially	1. Printed Money 2. Printed Monthly budget 3. Printed CV 4. Printed Share of global cumulative CO2 emissions table 5. Dixit Cards 6. Printed Triangle 3D template

Introduction to the topic

The teacher prepares the classroom for individual and group exercises.

Each student receives money from the teacher (100 euros, divided in different banknotes and coins) together with information about their income.

The teacher cuts the Monthly budget according to the number of students and mixes it. After reading the information, the students need to individually decide how much they are willing to donate to a low-income family in order to help them with energy access. They put the amount of money they would like to donate in the bank which will be in the middle of the classroom together with the teacher who is checking how much money they are collecting to help.

Money.png

770.9 KB

Some questions that can guide the discussion can be:

- Why did you decide on this amount of money?
- How could this common payment help low-income families?

Discussion phase

Leaving no one behind in Global South

- The students watch the video (Duration 5:58) will help them understand how to implement an integrated electrification planning approach on a national scale. Watch by clicking here
- The students watch the video (Duration 7:00) explores how Nepal is reaching the last mile to achieve universal electricity access. Watch by clicking here
- The students watch the video (Duration 4:29) helps understanding more about access to clean cooking for people in Rwanda. Watch by clicking here

After watching the videos, the teacher asks students to join the Socrative quiz. The suggestion is to launch the quiz with Teacher paced mode.

To use the quiz, the teacher creates an account on Socrative and copies the quiz to the account.

The questions inside of the quiz will help check students' understanding of the topic. The questions are about new solutions for the electricity challenges, connection with the SDG7, IEP principles and government goals.

Socrative is an activity creator with instant feedback.

Instructions for the teacher on how to help students use Socrative if needed can be found here:

Socrative: Quick and Clear Introduction for Teachers #Socrative

Reflection and discussion when using videos

Tackling energy poverty in Global North

The students divided in groups study the table: Inability to keep home adequately warm, 2020 that shows the inability to keep homes adequately warm.

The teacher prepares *Dixit* cards for the students to choose from. After studying the table they try to choose the cards that represent the several factors of the problem, including:

1. High energy expenditure
2. Low household incomes
3. Inefficient buildings and appliances
4. Specific household energy needs

The students watch the video (Duration 8:00) to learn about the causes, consequences and solutions to energy poverty in the EU. Watch by clicking here

After watching the video, the students consider the poorly insulated houses, low income, and rising energy prices and try to create another chain of connections with Dixit cards.

- What short-term and long-term solutions exist? The students search for another card to find a solution for each problem
- After finding the card they show it plenary and explain their idea. Which solutions are better and why?

Consider suggestions such as better isolation of houses; energy-efficient cooking stoves; investing in renewable sources of energy; better policies.

Dixit card

Dixit is a popular storytelling board game that includes eighty colourful and imaginative picture cards. The use of Dixit in the classroom could foster creativity, help to understand and remember the topic better and also to create a connection between theoretical and visual parts. It could be especially useful for new difficult topics where the students need to find a connection to remember new material.

Reskilling workers exiting the fossil fuel industries

The students watch the video (Duration 3.02) about transitions of coal communities and learn about how reskilling is actually possible and beneficial. Watch by clicking here

Later, they create a list of characteristics which could be useful for acquiring new jobs in the renewable sector. The students create a **CV** for the person who is switching from the fossil fuel sector to a renewable one after working for more than 20 years in the former. It should be a proposition of the best characteristics, skills, courses and training for that person.
Some questions that can guide the discussion can be:

- What obstacles might that person encounter in taking on a new job in a different industry within the community?
- What are the best skills that a person should develop?
- Do you think women are more suited for jobs in the renewable sector than in the fossil fuel sector?

Climate justice for all people

The students use the graph Share of global cumulative CO2 emissions to complete the data requested in the table CO2 emissions. They fill in the data about which country is responsible for the highest, and second-highest cumulative CO2 emissions.

Table CO2 emissions.pdf
60.6 KB

(Duration 4:22) about young climate activists who push for changes. They will learn more about the MEPA and why more climate justice is needed. Watch by clicking here

Some questions that can guide the discussion can be:

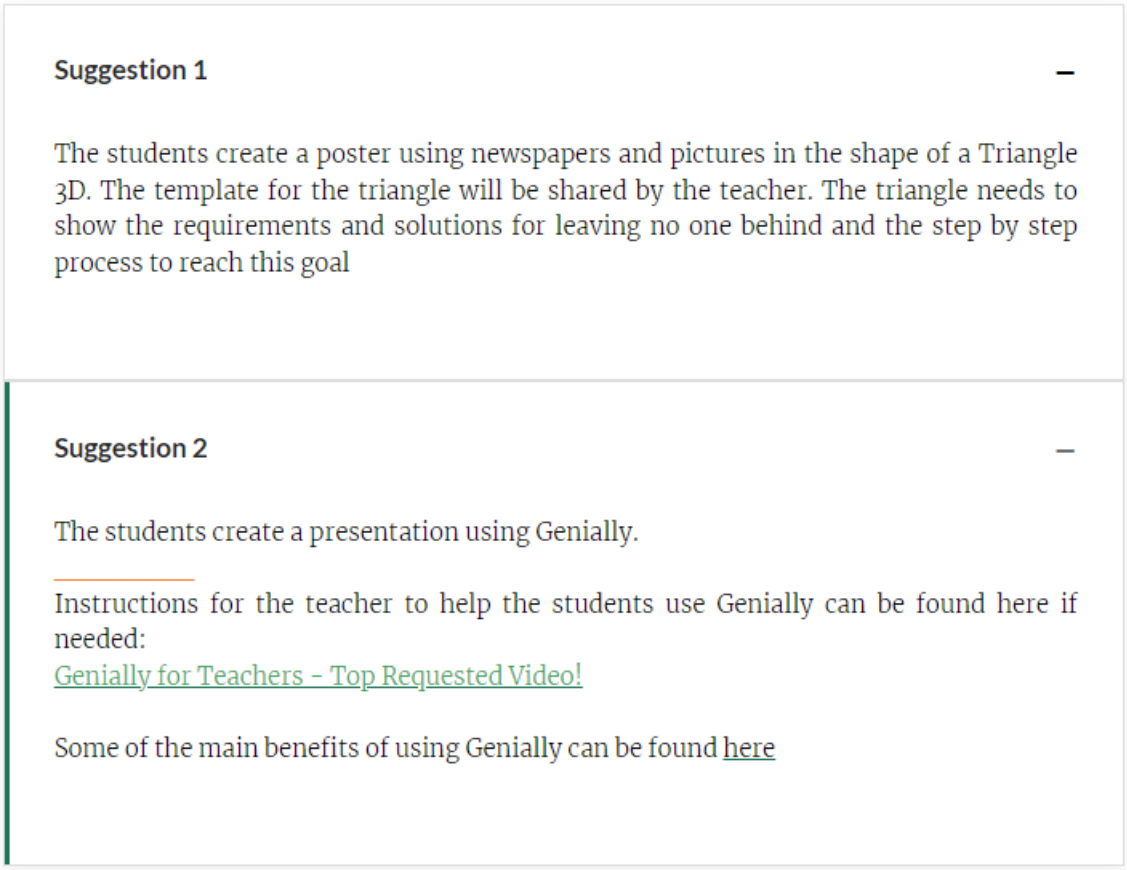
- Considering the cumulative CO2 of various countries/regions, discuss with your peers what you think would be the most appropriate distribution of responsibility?
- Even if the past GHG emissions relate to our grandparents and parents' consumption, do you think it is fair that the richer, more polluting countries help the poorer, more vulnerable countries face climate challenges? Explain your reasoning.

Tasks can be solved in different ways

The students explore the World Research Institute's collection of case studies on how to implement a just energy transition worldwide. They need to identify the needs for transition in their own country based on the snapshots and previous knowledge.

Students need to develop a presentation that includes the following topics:

- How would you ensure that no one is left behind
- The steps needed to get there



Link: https://www.youtube.com/watch?v=gwLZhEAxyE0&ab_channel=NewEdTechClassroom

High and low emitters

Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 3, Topic #3 2. Tutorial: How to use Jamboard 3. Tutorial: How to use Wordwall 4. Prepared Jamboard 5. GHGs emissions table 6. Tutorial: How to use TedEd 7. HOW chart 8. Planets template	1. Sticky-notes 2. Printed GHGs emissions table 3. Printed HOW chart 4. Printed Planets template

Introduction to the topic

Presentation of High and low emitters

The students read in groups the figure which presents global primary energy consumption by source dating back to 1800. They compare the data according to year, sources and its changes in time.

The teacher shares the Jamboard for a short reflection. The suggestion is to copy Jamboard to a personal account and later invite students to cooperate.

Jamboard is a collaborative whiteboard.

Instructions for the teacher in order to help the students use Jamboard if needed can be found here:

How to use Jamboard Tutorial

Some of the main benefits of using Jamboard can be found here

Discussion phase

High and low emitters by country

The teacher divides students into two groups. Each group receives the video, the sources to analyse and questions to answer. They use the resources to explore the energy consumption of their country over the past 50 years and find the necessary knowledge to answer the questions.

The students watch the video (duration: 8:00) to start understanding the many options countries have when transitioning to net zero. Watch by clicking here

The first group: −

Every creative endeavor requires that you take risks. If you try and don't succeed, you've still learned something. It took Thomas Edison more than 10,000 tries to invent a viable lightbulb. You're not failing. You're discovering what doesn't work.

Our World in Data - Energy use per person, 2021

Our World in Data - Energy Production and Consumption

Our World in Data - Annual change in primary energy consumption

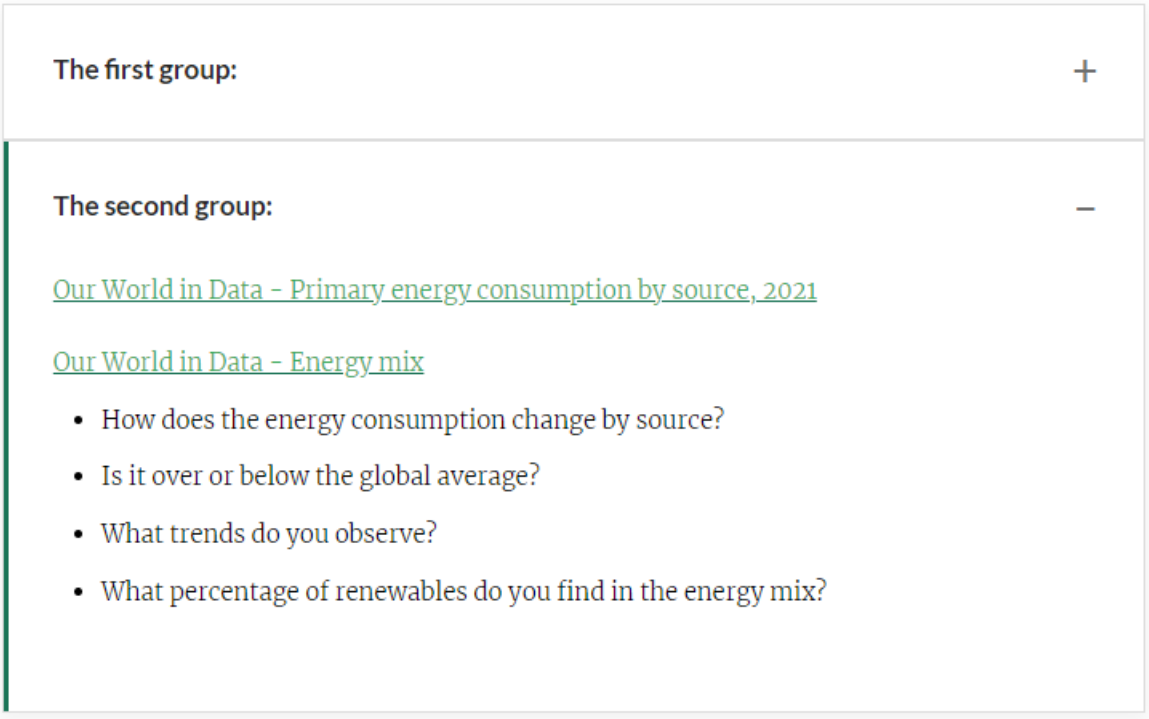
- How much energy per person does a country use compared to the highest consumer?
- Is it increasing or decreasing?
- Is it over or below the global average?
- What trends do you observe?

The second group: +

Our World in Data - Energy use per person, 2021

Our World in Data - Energy Production and Consumption

Our World in Data - Annual change in primary energy consumption



Our World in Data - Primary energy consumption by source, 2021

Our World in Data - Energy mix

After collecting the information and shortly discussing in groups, the members of one group (2-3) go to another and listen to the information they gathered. The same happens to another group. After 5 minutes they come back to the original groups and share new knowledge from another group.

Some questions that can guide the reflections can be:

- What is the point of the experts in the video about the responsibility of emissions?
- What myths from the video surprised you?
- What options are proposed by the experts from the video?

They can add their country using the button Add country in the chart.

Reflection and discussion when using videos

The teacher uses the learning station method to work with the following topics: High and low emitters by income level, High and low emitting sectors and High and low emitters by fuel type. Learning stations are specific areas (tables) in the classroom prepared by the teacher for the students in order for them to explore the different topics independently. Each table corresponds to a specific topic and has tasks for the students to complete using different approaches. The goal is to foster students' curiosity and to give them the possibility to choose what they would like to learn more about and which method they are more

comfortable with when it comes to understanding the topic and learning. After completing the stations the debriefing phase follows.

Learning Stations.docx
294.4 KB

The students can work individually or in pairs as divided at the beginning of the activity. If during the activity a group of students joins a station with other students, they can complete the task together and discuss it.

Based on how many students are taking part in the activity, the teacher can decide if it's better to print all the Instructions to equip the tables/stations twice.

The students choose the place from where to start. They complete the tasks and change stations until the last one in the order chosen by them.

High and low emitters by income level (Table 1)

The table is equipped with Instruction for students Table 1, a flipchart and coloured markers.

The task for the students working on this station is to read the theory and share their opinion about the impact of income level on emissions. They write their thoughts in the flipchart so that when other students arrive they can read them and discuss it with the whole class.

High and low emitting sectors (Table 2)

The table is equipped with Instruction for students Table 2, an electronic device and the printed table Highest emitting sector.

The task for the students is to use the interactive GHG emissions by sector and identify the three highest emitting sectors in their country. All results should be included in the table Highest emitting sector.

Students have to compare the results of their country with that of the US, China, India, Italy, Sweden and Kenya. They have to analyse the results and put them on the table.

They can change the country by clicking on the blue, double arrows to the left in the chart.

After analysing, the students individually/in groups need to come up with the ideas for the worst possible scenario in case the world/the countries continue to emit the same amount of GHGs from electricity, heat and transport.

The exercise of creating the worst scenario shows the worst results and raises awareness on the problem so that new solutions can be found.

High and low emitters by fuel type (Table 3)

The table is equipped with Instruction for students Table 3, three envelopes with the topics with HOW chart and an electronic device.

Envelopes.docx
164.9 KB

The students watch the video (duration 4:41) to understand some of the energy considerations we need to make when choosing the next car to buy.

Watch by clicking here

After finishing all the tasks in the video, the students start to think about solutions for the challenges. The students can choose to work individually or with their group and can also choose the topic they find more interesting. Based on the topic they prefer, they take one of the envelopes with the questions inside and the chart. The first envelope - clothes production; the second - meat consumption; the third - car use.

The group who chose the first envelope has to first try to find a fast solution to the challenge answering the following question: What kind of clothes do you buy? Is it fast fashion, is it recycled clothes or is it made from sustainable materials? How can you make your choice of clothing more sustainable?

The group who chose the second envelope answers the following questions: do you eat meat or vegetables on your daily basis? How much meat do you eat on a daily basis? Is it possible to cut it down and how?

The group who chose the third envelope answers the following questions: Does your family have a car and what kind of fuel does it use? Is it sometimes possible to take the bike instead? If you had to make the most sustainable choice, which car would you choose? How can you choose the most sustainable car?
In each envelope students will find the HOW chart.

HOW chart (1).png
70 KB

Suggestions on how to fill in the HOW chart to find even more solutions and how to implement them:

1. The students write a solution on the left side of a piece of paper, with plenty of room to work to the right.

2. They identify the initial steps needed to implement the solution and write them on the right of the solution.
3. They consider each step individually, breaking it down into its detailed stages by repeatedly asking how it can be achieved. They record each stage in the appropriate place on the right side of the diagram.
4. They continue the process until each step has been drawn out to its logical limit.
5. They examine the complete diagram for recurring elements that tend to indicate the most crucial stages in the process of implementation.

TedEd is a video lesson creator with the option to track the results.

Instructions for the teacher in order to help the students use TedEd if needed can be found here:

How to use TED-ED - Ideas for the Flipped Classroom #TED-ED #flippedclassroom

Some of the main benefits of using TedEd can be found here

Tasks can be solved in different ways

The students measure their own ecological footprint. They go to this website and answer the questions individually to see when their earth day is and how many planets they would need to maintain their lifestyle.

The teacher prepares the box with planets (at least 4 per person). After finishing the test, students should take as many planets as they need and glue it on the wall - to see how many planets one class needs.

Planets.png
1.1 MB

Suggestion 1

After collecting the planets the students brainstorm on how they could reduce their ecological footprint.

The teacher proposes active listening brainstorming.
Students start with the question being brainstormed (What can you adjust or change in your everyday life to reduce your ecological footprint?). Students use sticky notes and a dark, felt-tipped marker. They write one idea per sticky note in headline form (2-5 words) without going into detail. They call out the idea once they've written it or when they hand it in. Everyone keeps an ear open for what others are calling out. If someone else's idea occurs to them, they write it down. If not, they just move on with their own thinking.

After finishing the task the students need to choose 3 things that everyone in class will try to change over the next week/month.

Note: in one month the teacher will ask to repeat the test again and check if the ecological footprint changed and if they can take some planets off the wall.

Suggestion 2

After collecting the planets the students brainstorm on how they could reduce the ecological footprints. The teacher proposes brainstorming with Wordwall. The students choose the number and answer the questions in groups outloud or written.

Instructions for the teacher in order to create Wordwall if needed can be found here:
WORDWALL Gamify Your Classroom with a Few Clicks!

Link: Wordwall
Link: Wordwall Gamify your classroom with a few Clicks

Net Zero by 2050

Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 3, Topic #4 2. Tutorial: How to use Pixton 3. Paris Agreement form 4. Milestones table 5. T-shirt template 6. Comic strip template	1. Flipcharts, sticky-notes, newspapers, scissors, markers 2. Printed Paris Agreement form 3. Printed Milestones table 4. Printed T-shirt template 5. Printed Comic strip template

Presentation Net Zero by 2050

The teacher prepares the classroom for individual and group exercises. The students will draw individually. If the class is big, the teacher can divide them into two groups and prepare identical flipcharts.

The teacher prepares sheets of paper and colour markers. The students work individually. The teacher invites students to spread out around the drawing surface (big flipchart) and grab a colour that appeals to them. The teacher gives the sign to start doodling an answer for the question: What role do the politicians have in reducing GHG emissions? After about one-two minutes, the teacher gives the sign to move 2 spaces to their right and doodle on and around what's in front of them. After about one minute, they rotate one more time to the right, and continue doodling. They continue (adding variations as desired) until the surface is covered. The teacher makes sure to stop when energy is high…don't drag it on for too long. The teacher asks the students to stand back and look at the doodle to find an answer and then share those feelings.

The students capture new ideas/thoughts all together from the drawing on the flipchart, putting it in words and key points.

Some questions that can guide the reflections can be:

- What do you think are politicians doing a good job in this area?
- Do you think you could halve your GHG emissions in a decade?

> "The exercise helps to create an abstract, participant-generated image from which they can access feelings or ideas. It allows participants to use visual stimuli as a springboard for reflection and discussion, and adds energy to the process through the use of a creative, kinesthetic activity."

Creative Problem Solving Tools & Techniques Resource Guide, 2015, page 50. Reference

Discussion phase

Paris Agreement

The students watch the video (Duration 3:00) to learn why Aidan Gallagher supports the Paris Agreement and how everyone can help him spread the word on social media. Watch by clicking here

The teacher proposes to give Aidan Gallagher, Goodwill Ambassador of the UN Environment Programme, a helping hand following his Instagram in supporting the Paris Agreement on social media using #climateaction #generationrestoration #fornature

Based on the video and the previous knowledge on the topic, the students have to decide individually: What is more critical, setting political goals or citizens' actions?

In order to make a decision, they fill in the form The Paris Agreement with all the cons for the idea. Later, they can optionally post on their social media their idea, tag the influencer and put the hashtags proposed.

The Paris Agreement .png
55.2 KB

Reflection and discussion when using videos

The students analyse the table with the milestones, which include no new oil and gas fields or coal mines beyond 2021 and a zero-carbon power sector by 2040.

The milestones.jpg
80.8 KB

The students watch the video (Duration 7:22) to learn more about how to deliver net zero and various pledges around the world

Watch by clicking here The students watch the video (Duration 3:30) to determine if net zero pledges from companies have substance.
Watch by clicking here

The students create a note to follow: How to choose net-zero plan companies according to planned milestones in the year 2022/2030/2045?

To create a note they can use flipcharts, sheets of paper, newspapers, markers.

Some questions that can guide the reflections can be:

- What could be the difference between a net-zero plan for a factory or restaurant?
- Can you imagine taking on a job that will help solve net zero? If so, what kind of job would that be?
- Is it important to you that the brands you buy from strive for net zero emissions?

The carbon law

The students watch the video (Duration 2:55) to learn why implementing the carbon law is fundamental. Watch by clicking here

The students explore the carbon-neutral cities website and learn how cities worldwide are taking the lead in reducing GHG emissions while ensuring economic growth.

The teacher gives to students the quote from the video by Johan Rockström.

"We have shifted from a small world on a big planet to today being in a big world on a small planet." Johan Rockström

To understand better what this quote means, the teacher gives to students sticky-notes with two colours. One colour is for Take, another is for Give. The students need to write individually what they can give to the planet and what they take from the planet. After writing the students share their ideas in plenary and glue them on the wall under two columns: Take and Give.
Some questions that can guide the reflections can be:

- What do you think of the proportion between what we take from the planet and what we give?
- Which Carbon Neutral City's policy surprised you and why?
- How would you reduce your GHG by half over the next ten years?

Net zero by all - focus on consumers

The students watch the video (Duration 6:04) to learn about the life cycle of a t-shirt
Watch by clicking here
The students watch the video (Duration 6:51) to learn about the impacts of global fast fashion.
Watch by clicking here

The teacher gives the groups a T-shirt template. Using the template the students create an infographic where they need to include: average amounts of T-shirts they use individually, what is included to produce 1 T-shirt, how to reduce the production of T-shirts and its negative climate impact, what are the concrete steps to do. They can use the template as a collage or cut it. The teacher gives all the necessary materials: scissors, markers, newspapers.

T-shirt.png
110.5 KB

Some questions that can guide the reflections can be:

- What can you do to contribute to the reduction of the negative impact of fast fashion?
- Could you stop buying new clothes next year? How do you think you would react to this?

Tasks can be solved in different ways

Make a comic strip

In this task students are going to make a comic strip about Net Zero 2050. A comic strip is an easy and accessible way to communicate and digest a story or a topic. It is made by creating a sequence of drawings to create a narrative - sometimes in a humorous way.

In the comic strip they have to include the following:

- Minimum 6 panels with drawings
- Include text with explanatory or commenting content, eg. the text can be used in thought bubbles or captions
- Create a main character, that we will follow throughout the comic strip
- An explanation on why Net Zero 2050 is important and/or how we are going to reach net zero

After they have made the comic strip, they are going to:

- Present the comic strip to the class, perhaps also show the comic strip to a class from a lower grade.
- Gather all the comic strips in a book, that can be borrowed from the school library by the other pupils

Before starting to work, the teacher can show the video: How to Create a Comic Strip.

Suggestion 1 –

The teacher shares with the students Comic Strip templates. They use markers to create comics according to their ideas about the topic.

Comic Strip template1.png
38.5 KB

Comic Strip template2.png
31.1 KB

Comic Strip template3.png
30.6 KB

Suggestion 2

The students create a comic strip with the Pixton webpage.

Instructions for the teacher in order to help the students use Pixton if needed can be found here: Make Comics for School with Pixton Edu

Link: Pixton
Link: Make Comics for School with Pixton Edu

4. Food production – the other side of the coin

Use of lands surface

Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 4, Topic #1 2. *Dice Game* template 3. Tutorial: How to use Mentimeter 4. Tutorial: How to use Magisto 5. *Lighter lunches for our planet* template	1.Flipcharts, paper, sticky-notes, post-its, markers 2. Printed *Dice Game* templates 3. Printed *Lighter lunches for our planet* templates

Introduction to the topic

Presentation of Use of lands surface

The teacher prepares the classroom for individual and group exercises.

The teacher prepares one flipchart with the table with the questions from Let's Act!:

- How much of the land's surface is used for agriculture? What does "ecological agriculture" mean? What food groups have the highest emissions? What is agroecology?

Each question has its own column. The teacher gives the students some sticky-notes.

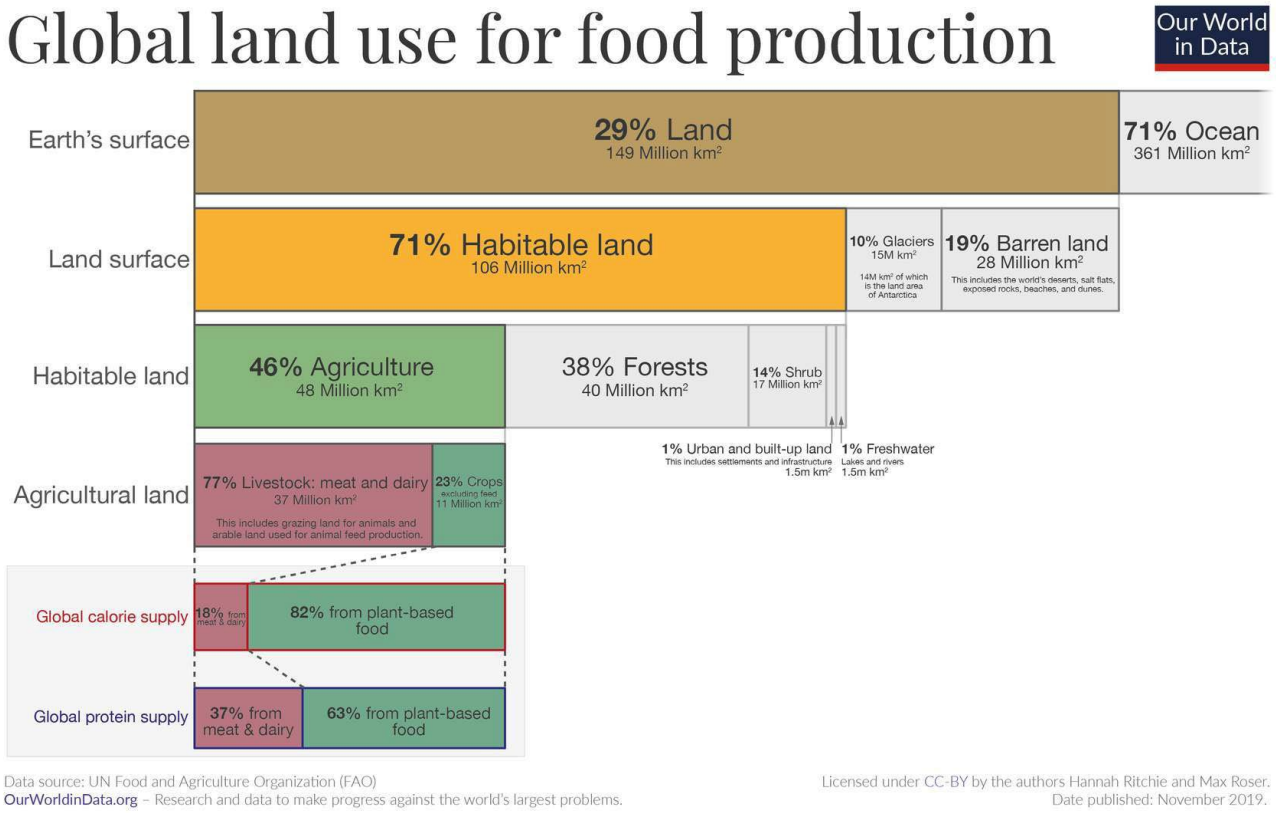
The students need to answer the question individually and put it to the corresponding column on the chart.

The teacher during the activity can read some answers making clear for the students that it is fine if they don't know the answer or if the answer is not correct: by exploring the topic they will find out the correct answers. At the end of the topic they can check their previous answers and who was closer to the correct ones.

Discussion phase

Global land use for food production

The students individually study the chart Global land use for food production



The bar chart is from Our World in Data (**https://ourworldindata.org/land-use**)

The students watch the video Journey 2050: Land Use (Duration 3:41) to understand the escalating competition between the global demand for land to provide us with food, water and energy and the need for land to support all life cycles on Earth.

Watch by clicking here

The teacher prints the cards from the Dice Game on both sides of the paper to use them later as question cards.After studying the teacher gives them the 6 dots dice to roll (or use an online dice roller) in order to choose the question. Each question has 2 numbers to have the possibility to choose more questions from the poll. Each student rolls the dice and the teacher gives the question.

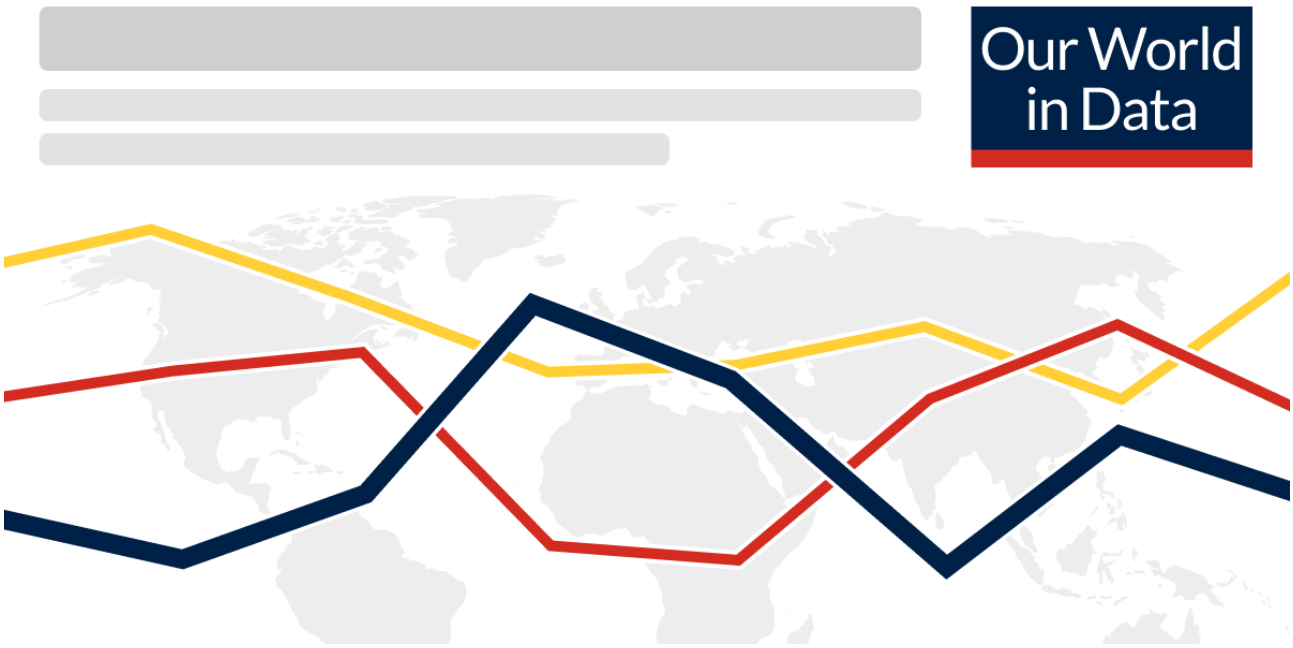
Note: the teacher can divide the students in smaller groups and prepare the dice and the set of questions for each group.

Dice Game.pdf 88.2 KB

Reflection and discussion when using videos

Footprint of various food groups

The students individually study the chart Land use of foods per 100 kilocalories



Land use of foods per 1000 kilocalories
Land use is measured in meters squared (m²) required to produce 1000 kilocalories of a given food product.
The bar chart is from Our World in Data (https://ourworldindata.org/grapher/land-use-kcal-poore)

The students watch the video Why beef is the worst food for the climate (Duration 4:37) to learn what factors in the production of various food groups are the primary sources of the high Green House Gas emissions. Watch by clicking here

The teacher uses the collaborative learning strategy "think-pair-share".

The students individually answer the following questions:

- What are the two main factors responsible for substantially higher emissions of animal products?
- What is the effect of enteric fermentation on cows?
- What impact does it have on emissions?
- Why do nuts, olive and citrus fruit have negative emissions?

Later the teacher divides them into couples. In the couples they discuss the same question, sharing their ideas prepared before. If they found out something new they can write it down.

Each couple of students present their answers to the others, sharing their thoughts with each other and with the teacher who will facilitate the discussion.

Some questions that can guide the reflection can be:

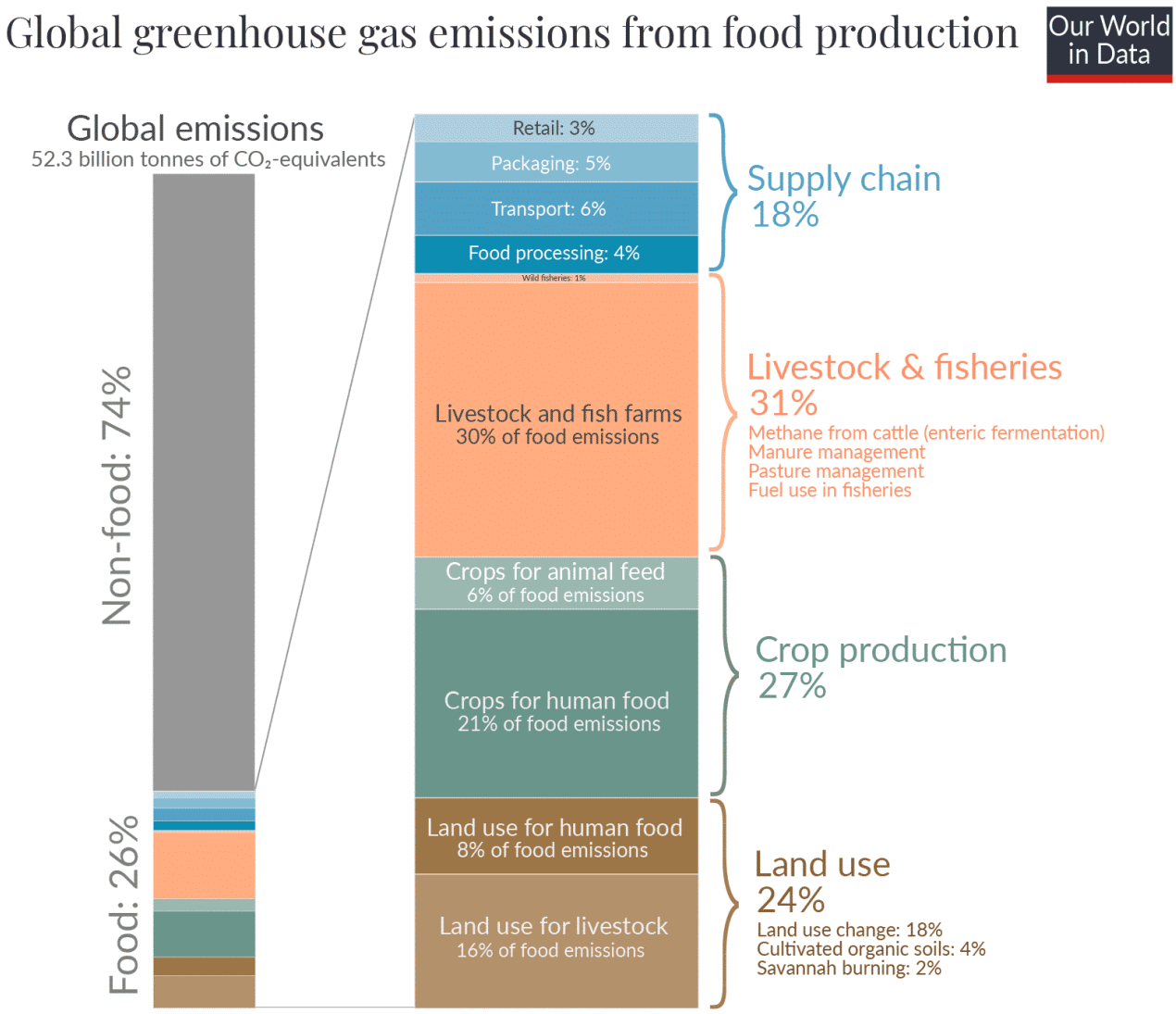
- What should we do to achieve a sustainable environment?
- How can each of us start it?

GHG emissions come from various factors from food production

The teacher asks the students to write on their notes their favorite food. Later the teacher shares with the students the chart from the platform and each student individually checks the environmental impact of the food written in their notes. Later in groups they compare the different kinds of foods, and they select together one of them they like but that also has a less impact on the environment.

Data Explorer: Environmental Impacts of Food
Research and data to make progress against the world's largest problems
The bar chart is from Our World in Data (https://ourworldindata.org/explorers/food-footprints?)

To keep exploring the topic about GHG emissions, the teacher shares with the students the chart from the platform and the students first read it individually.



Data source: Joseph Poore & Thomas Nemecek (2018). Reducing food's environmental impacts through producers and consumers. Published in *Science*.

The bar chart is from Our World in Data (https://ourworldindata.org/food-ghg-emissions)

Later the teacher divides the class in two groups and each group is assigned to one question between the following:

1. Eating locally produced products is being promoted as a sustainable choice. Is transport, at 6%, a significant factor in the overall footprint?
2. Most food production emissions come from processes on the farm or land use change, and much less from transport and packaging. Is it then fair to conclude that what we choose to eat has a much more significant impact than how far it has travelled or how it is wrapped?

Each group discusses the question and tries to come up with an answer/idea. After about 10 minutes the teacher asks half students of each group to leave their group and to join the other one. In the second group they will learn what the other students thought while answering the other question and they will share with the others what they thought with the original group for the question assigned to them.

Four steps to build your own vegetable garden

The students do a quick search on YouTube and look for videos on how to regrow their favorite fruits and vegetables. Before starting to grow they can share their findings and best practices with their classmates or schoolmates. They can create short videos with video editor and maker for their smartphones Magisto.

Instructions for the teacher on how to help students if needed can be found here:

How to Use Magisto - Video Editor & Music Slideshow Maker Android 2021

Tasks can be solved in different ways

The students write the plan for lunches during the week. They write down 7 recipes for their favorite lunches, they should try to be as accurate as possible with weight and quantity. Later they explore their climate footprint with the help of the Big Climate Database by clicking here(opens in a new tab). The teacher points out that the amount of CO2 is calculated per kilogram of the food items!

After the first calculation, they do the task again trying to change some of their food items with alternatives that emit fewer emissions. They create a food plan that makes their emissions as low as possible and that they actually want to implement!

Suggestion 1

The students individually fill in the table Lighter lunches for our planet, putting information in two columns: My lunch and New lunch. They should pay attention to the amount of CO_2 per kg of the item they use. They present the results in plenary discussing the most popular products they use to prepare their meals and the new alternatives they choose to create lighter meals for our planet.

Suggestion 2

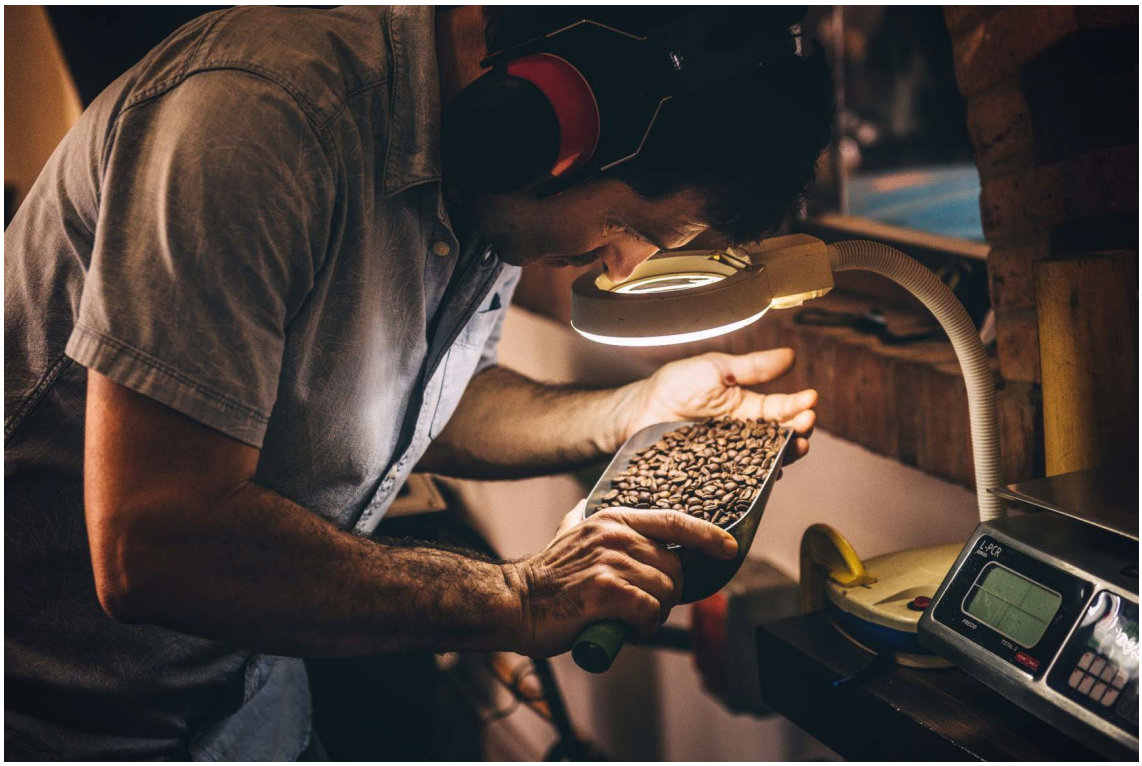
The students in small groups present their results using interactive presentation creator Mentimeter. The teacher can suggest to put the general information about CO_2 emissions and the information they learnt during the topic, they also add their recipes for the lunches they prepare now with the amount of CO_2 emissions and their future lighter lunches with the amount of CO_2 emissions. In the end the students calculate the total reduced amount if they will prepare their new lighter lunches.

Instructions for the teacher on how to help students if needed can be found here: How to Create Your First Mentimeter Presentation - 7 Minute Crash Course Tutorial

Some of the main benefits of using Mentimeter can be found here

Lighter lunches for our planet.pdf
606.4 KB

Sustainable food production



Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 4, Topic #2 2. Tutorial: How to use Padlet 3. *Milk* form 4. *Case Study Costa Rica* template	1. Flipcharts, paper, sticky-notes, post-its, markers 2.Printed *Milk* forms 3.Printed *Case Study Costa Rica* templates

Introduction to the topic

Presentation of Sustainable food production

The teacher prepares the classroom for individual and group exercises.

The teacher prepares 4 tables and/or 4 flipcharts and markers with the following questions on them:

- What does modern sustainable agriculture look like?
- What does restorative ocean farming do?
- What do we need to produce dairy milk and plant-based?
- What does permaculture mean?

The students work in small groups. They have 3-5 minutes to draw the answers for the questions on the flipchart. Later they change the place and answer the next questions till they answer all of them. Every time a new group comes to the table, they can add elements to the drawing according to their opinion concerning the specific question.

Discussion phase

What does modern sustainable agriculture look like?

The teacher prepares the flipcharts, markers, newspapers, scissors and glue for the group work.

The students work in small groups, firstly they watch the video Can we create the "perfect" farm? - Brent Loken (Duration 7:10) to learn what future farms may look like to provide healthy, sustainable food for all while preserving biodiversity.
Watch the video by clicking here.

Secondly, the students write a short description of the traditional and future farms based on the information from the video. Later they create the collage of the perfect farm, taking in account the ideas from Costa Rica, US, Nepal, Zambia, India and adding the original ideas and suggestions for the perfect farms for the environment and people to use.

Some questions that can guide the discussion can be:

- What is essential about limiting fertiliser use?
- How can we limit the use of water?
- Why is forest regeneration significant?
- What can be done to reduce food waste?

Reflection and discussion when using videos

What does regenerative ocean farming look like?

The teacher shares with the students the Padlet (an app for creating collaborative walls) with the activities inside for the individual work.

The activities inside the Padlet:

1. The students analyse the chart Seafood production: wild fish catch vs aquaculture, World.
2. The students answer the question: Why is aquaculture growing so fast?
3. The students watch the video Underwater farms vs. climate change (Duration 4:29) to learn more about the evolution of global fish consumption.
4. After watching the video the students answer the question about the relevance of using net pens and coastal ponds.
5. The students answer the question: How would our environment change if we produce huge amounts of shellfish and seaweeds?

Suggestion for using the Padlet for the activity:

-***Copy*** the Padlet to your account.

-Allow the comments with the ***required approval*** option (in this way students will not see the answers before writing their own ideas).

-Share the ***secret*** link with your students with the editing option.

Padlet is a tool that allows learners to collaborate online by posting text, images, links, documents, etc.

Instructions for the teacher on how to help students if needed can be found here:

Padlet Tutorial for Teachers(opens in a new tab)

Some of the main benefits of using Padlet can be found here

Which milk is best for humans and the environment?

The students work in four groups. The teacher distributes the Milk form for each group of students.

Milk.pdf
88.5 KB

The students analyse the chart Environmental footprints of dairy and plant-based milks(opens in a new tab).

Environmental footprints of dairy and plant-based milks

Impacts are measured per liter of milk. These are based on a meta-analysis of food system impact studies across the supply chain which includes land use change, on-farm production, processing, transport, and packaging.

The chart is from Our World in Data (https://ourworldindata.org/grapher/environmental-footprint-milks?)

The students watch the video Which type of milk is best for you? (Duration 5:25) to determine which type of milk is best for them by comparing the environmental and nutritious differences between dairy milk and various types of plant-based milk. Watch by clicking here

After these two steps they fill in the charts about cons and pros of milk, and their ideas about why this type of milk is better for humans/environment.

Some questions that can guide the reflection can be:

- Which type of milk has the biggest impact on land use?
- Which type of milk has the biggest impact on GHG emissions?
- Which type of milk has the biggest impact on freshwater use?
- Which type of milk has the biggest impact on eutrophication?
- What are the main advantages of switching to plant-based milk?
- Would you be willing to try replacing some of your dairy consumption with plant-based milk? Which one?

Tasks can be solved in different ways

Case study - Sustainable living in the jungle

The students watch the video How To Create A Completely Sustainable Farm + Tour Costa Rica (Duration 7:55) about Anna and Ian to learn more about the experience in constructing their sustainable life in the jungle in Costa Rica. Watch by clicking here

The students explore the website of Finca Terra Permaculture to see more about the life and work of Anna and Ian.

Some questions that can guide the reflection after completing the tasks can be:

- What did you learn from Anna that you think you could implement at home?

- Could you reduce your energy consumption?
- Could you start growing some of your food?
- Could you start collecting rainwater?
- Could you adopt a plant-based diet?
- Could you make your own oil and/or spices?
- Could you make your own compost?
- Could you replace your candy intake with locally grown fruit?

Suggestion 1 –

The students individually fill in the form Case Study Costa Rica adding the information about challenges and benefits of the permaculture design in Costa Rica, defining the objectives and solutions, pointing to concrete benefits of the farm and writing their reviews about the idea.The students present their ideas in plenary.

Suggestion 2 –

The students plant the seed of tomato, parsley, strawberry or any other fruit/vegetable according to the climate and conditions of their houses.
During the growing process they pay attention to:

- How much water they use to water the plant;
- How much plant fertilizers they use (if any);
- How much time it takes to have fruits.

After a couple of months they share their results in the class. The teacher should stress on the fact that every fruit/vegetable we buy and eat requires a lot of time, resources and energy to grow. Some of them could be wasted later or could have a lot of artificial fertilisers.

Case Study Costa Rica.png
1 MB

Sustainable health diet

Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 4, Topic #3 2. Tutorial: How to use EdPuzzle 3. ***Sustainable health receipts*** template 4. ***Weekly Meal Planner*** template 5. Tutorial: How to use Genially	1. Flipcharts, paper, sticky-notes, post-its, markers 2. Box (hat) 3. Printed ***Sustainable health receipts*** templates 4. Printed ***Weekly Meal Planner*** templates

Introduction to the topic

Presentation of Sustainable health diet

The teacher prepares the classroom for individual and group exercises.

The teacher gives the students post-its. The students write down 3 random objects (not abstract concepts but concrete objects). They fold it and put it in the box. The teacher mixes the answers.

When all the answers are collected the teacher asks students to pick up one post-it and write down the sentence:

Balanced and varied diet is/is not like a ***random object*** *because…*

Example: a balanced diet is like a table because it is something we also see and can change the locations of the objects on it.

The students share answers in plenary. The task can be done 2 or 3 times. The teacher points out the importance of different views on the problem, both positive and negative ones. The exercise could be used as a brainstorming activity, to foster creativity and find new ideas and points of view on the topic.

Some questions that can guide the discussion can be:

- What do you think, is the organic option always the more environmentally friendly option?
- What do you think, why is the percentage of overweight and obese people increasing globally?

Discussion phase

Food - Health - Sustainability Challenge

The students analyse the chart Share of adults that are obese, 2016 and compare the change in adult obesity in their country from 1975 to 2016 with that of the United States, Japan, China and Nigeria.

READ MORE OUR WORLD IN DATA

The chart is from Our World in Data (https://ourworldindata.org/grapher/share-of-adults-defined-as-obese)

Some questions that can guide the discussion can be:

- What changes do you observe in your country from 1975 to 2016?
- Make the assumptions, why do some countries have so fast growth in the number of obese people and some a slow one?

The teacher divides the students in small groups. Each group has a flipchart with a big plate divided into 4 parts drawn on it in the middle and markers. The teacher asks to write the students' ideas inside the

plate (mentioning at least 4 of them): *Why do we need to change our food system?* Outside the plate the students write at least 2 ideas: *How could we change it?*

After finishing the task, the students watch the video Why do we need to change our food system? (Duration 7:55) to learn why it is essential to change our food systems to provide a healthier diet for all and a more sustainable environment. Watch the video by clicking here

During the watching and/or after it the students add the elements to their "plates". The students share in plenary ideas, adding also the one suggested in the video.

Some questions that can guide the discussion can be:

- What main ingredients in the Western diet lead to "modern diseases"?
- Do you consider your weekly diet to be balanced and varied?
- What is more important for you to improve our health or our environment?

Reflection and discussion when using videos

The EAT sustainable health diet explained

The teacher divides the students into 2 groups. Each group has a flipchart, markers and newspapers. Firstly, for around 10 minutes they explore the website The Planetary Health Diet – EAT to understand what is the planetary health diet and read 1 article of their interest. The students take notes, putting the information on the flipchart, using markers and/or newspapers.

The students watch the video A diet designed to save us, and the planet (Duration 3:12) to learn how and why the planetary health diet can improve your health and that of the environment. Watch by clicking here

The *first group* creates the picture of a healthy diet, taking the information from the website and the video. The *second group* is responsible for sustainable diet ideas.

The students share the ideas in plenary.

Some questions that can guide the discussion can be:

- What is the difference between a healthy diet and a sustainable diet?
- Which EAT planetary health diet recommendations would be the easiest for you to adopt, and which would be the hardest to adopt?

Is going organic the sustainable choice?

The students watch the video Is Organic Really Better? Healthy Food or Trendy Scam? (Duration 8:20) in EdPuzzle platform (video lessons creator) comparing the health and environmental impacts of organic and conventional food production.

EdPuzzle will give students the possibility to learn while watching the video. They cannot jump from one part to the next of the video and they will answer the questions on the platform.

Some questions that can guide the discussion can be:

- Why is regulating the use of pesticides important?
- What are some of the environmental advantages of organic farming?
- What are some of the environmental advantages of conventional farming?
- Is growing demand for organic food a good thing?

Instructions for the teacher in order to help the students and create their own lesson if needed can be found in this video:

Getting Started with "EdPuzzle" Tutorial

Some of the main benefits of using EdPuzzle can be found here

Sustainable health receipts

The teacher gives the students the template Sustainable health receipts. The students fill it in during and after two exercises: watching the video and exploring the website EAT project.

The students watch the video The diet that helps fight climate change (Duration 5:39) to get inspiration from the various healthy diets for your meal plan and understand why it is essential to be thoughtful about your food. Watch by clicking here

The students individually explore a range of delicious recipes proposed by the EAT project. They are suitable for both people and the planet.

They choose one they like the most and try to find why it is healthier for people and better for the environment, using the knowledge from previous topics and form the video. In the template they also brainstorm individually about their favorite food.

Tasks can be solved in different ways

The students individually create a Weekly Meal Plan using the template Weekly Meal Planner, which adheres to their taste that meets the planetary health principles. They can get inspiration from planetary health recipes.

Weekly Meal Planner.pdf
1.2 MB

Suggestion 1

The students cook one of the new dishes at home and share with classmates in the school. They share the receipt also with peers worldwide by posting their favourite meal on their social media. They take care of commenting on the recipe with the reasons for it being healthy for the planet and for them (locally produced food, vegetables, fruits, less animal protein, etc.). The teacher suggest to tag the recipes with #ClimateFood #PlanetaryHealthDiet #LetsAct&LetsEat!

Suggestion 2

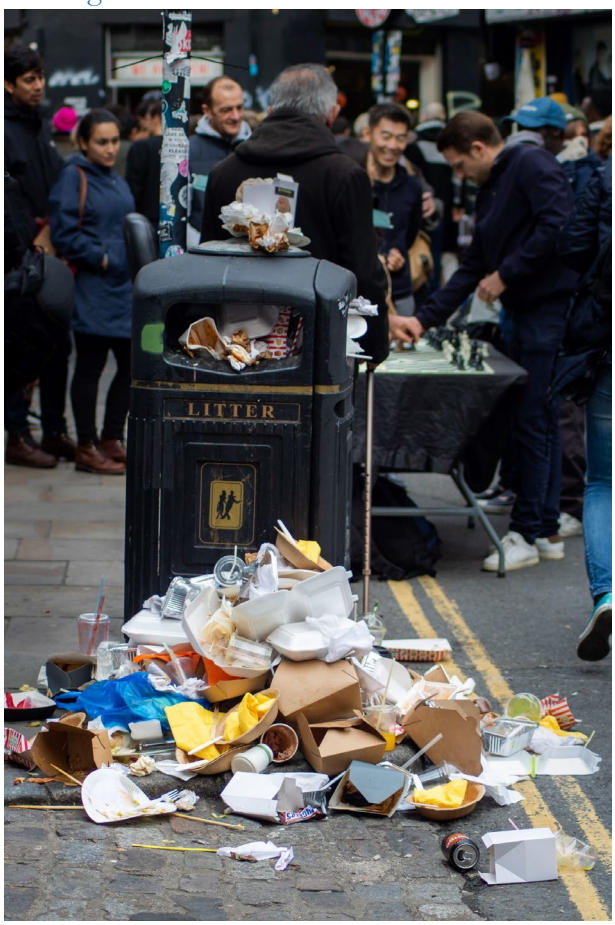
The teacher prepares the background in a media creation platform focused on designing and sharing media creations Genially and shares it with the students. Each student puts inside their recipes, adding some pictures from the Internet or their own.
The teacher can use it as a Recipe book and share with others in the school.

Instructions for the teacher on how to help students if needed can be found here:
Genially for Teachers - Top Requested Video!

Some of the main benefits of using Genially can be found here

Link Genially for Teachers: Genially for Teachers - Top Requested Video

Halving food loss and waste



Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 4, Topic #4 2. *Food waste Bingo* template 3. *Reduce Food Waste* template 4. Tutorial: How to use Quizizz 5. Tutorial: How to use Canva 6. Tutorial: How to use Prezi 7. Tutorial: How to use Powtoon	1. Flipcharts, paper, markers, glue, scissors, newspapers 2. Printed *Food waste Bingo* template 3. Printed *Reduce Food Waste* template

Introduction to the topic

Presentation of Halving food loss and waste

The teacher prepares the classroom for individual and group exercises.

The teacher prepares Food waste Bingo sheets for each student. The teacher gives it to the students. The students should ask their peers the questions from the Bingo sheet and take notes.

The students present the results in plenary and discuss different amounts of food waste, ideas on how the food is recycled and who is responsible for addressing food recycling.

Food waste Bingo.png
204.1 KB

Discussion phase

Quantify the food wasted globally

The teacher asks the question to everyone: *What do you think you can do to reduce your food waste?*

The students watch the video Food waste is the world's dumbest problem (Duration 9:22) to learn about the MIT FoodCam and how it, alongside other methods, strives to effectively reduce food waste at the university. Watch by clicking here)

The teacher divides the students into 2 groups. The teacher projects or prints the inspiration template Reduce Food Waste with the helping point: *what to do; how to do; when to do; who is included.* The teacher gives the flipchart and markers for brainstorming. The students need to brainstorm how they can reduce food waste at home (1 group)/ at school (2 group).

After 15 minutes, the students present their ideas to the class.

Some questions that can guide the discussion can be:

- What are some of the best solutions to food waste reduction?
- What food-waste initiative do you have in your country/community?
- What can consumers like you and I do to reduce food waste?
- What stakeholders must be involved in reducing food waste in your country?

The students in small groups explore topics of reducing food losses and waste in The Climate Lab by clicking here. They create an infographic and/or a poster to promote the Campaign at their School Canteen. Firstly, they identify a place struggling with food waste and implement a food reduction strategy. It can be done similar to the setting up of the FoodCam concept, and it will be obvious to measure the reduction in food waste. Secondly, they put up a weight in the school canteen for a week. They ask everybody (both students and teachers) to weigh how much food is left on their plates after eating. Later, after a week they name the top 10 or top 5 in food waste items and present results to others.

The posters and infographics can be done in an online graphic design tool Canva.

Instructions for the teacher on how to help students if needed can be found here:

8. Designing your Poster in Canva | Skills(opens in a new tab)

Some of the main benefits of using Canva can be found here(opens in a new tab)

Reflection and discussion when using videos

What happens when your food waste is collected

The students watch the video Food Waste - how is it recycled (Duration 2:05) to learn why sorting your waste is of great value and ensuring the organic matter can be recycled and used effectively.

Watch by clicking here

After watching the video the teacher shares the data to join the quiz created with a learning platform for interactive and engaging activities in the classroom Quizizz.

The questions inside the quiz are about 2 ways of composting, as In-vessel composting and Anaerobic Digestion, and take-action questions for students' reflection.

Note: to use the quiz, create an account on quizizz.com and copy the quiz to your account.

Instructions for the teacher on how to use the app if needed can be found here:

Full tutorial in Quizizz.com #formative assessment #quizizz #onlinequiz(opens in a new tab)

Case study - The role of food waste in a circular economy
The teacher prepares the flipcharts, markers, scissors, glue and newspapers.

The students in small groups watch the video Food waste recycling - creating a circular economy (Duration 3:44) to learn how GENeco manages the food waste recycling process in Bath and North East Somerset, UK. It demonstrates what happens to food waste when it is part of a circular economy. Watch by clicking here

While watching the video they individually take notes about the recycling circle presented in the video. After watching, they have 5 minutes in the groups to discuss and compare their notes. The teacher shows the video for the second time to recheck if they did not miss anything. After the second time the students create the colourful scheme about the circular economy model and food recycling process, using markers and newspapers. The students present their ideas to the class.

Some questions that can guide the discussion can be:

- We can integrate most resource use into the circular economy model. Identify a couple of examples of other resources that fit into the model. Explain how it fits.
- Explain why food waste is a valuable nutrient and energy-rich resource in a circular economy.
- What can food waste be turned into to be valuable to us all?
- Do you prioritise collecting and recycling food waste in your home? Could you do a better job, and if so, where?

Hacks to reduce food waste

The students watch the video 10 Hacks to reduce Food Waste & Save Money (Duration 5:45) to explore some of Joanna's many food-waste hacks.

Watch by clicking here

After watching the video they individually write at least 5 more hacks to reduce food waste and save money. They share it with the classroom, the teacher takes notes on the blackboard/presentation to create a big list of hacks.

Later in small groups the students produce a video suggesting how others can benefit from their hacking ideas. They may pick a food item close to going to the waste bin or any object that is no longer being used. They can just record the video with their phones or use video creator Powtoon to add new interactive elements to their videos.

Instructions for the teacher on how to help students if needed can be found here:

Powtoon Tutorial For Beginners | How to Make Videos on Powtoon | Better than Doodly?

Some of the main benefits of using Powtoon can be found here

Tasks can be solved in different ways

The students set up a food recycling system in the classroom, in the school or at home. They need to create posters where it is shown which items can be composted.

To inform the community and/or family the students create presentations, podcasts, posters and campaigns.

Suggestion 1

The students draw posters about the new recycling system they put in the school/at home to inform others. They include the information about what should be put inside, how often it should be cleaned, who is responsible.

Suggestion 2

The students create a presentation with the interactive presentation creator "Prezi" about the new recycling system they put in the school/at home to inform others. They include the information about what should be put inside, how often it should be cleaned, who is responsible.

Instructions for the teacher on how to help students if needed can be found here:
How to make a Prezi presentation

Link: How to malke a Prezi Presentation

5. A world of opportunities

Role of government - top-down approach

Duration: 90 minutes

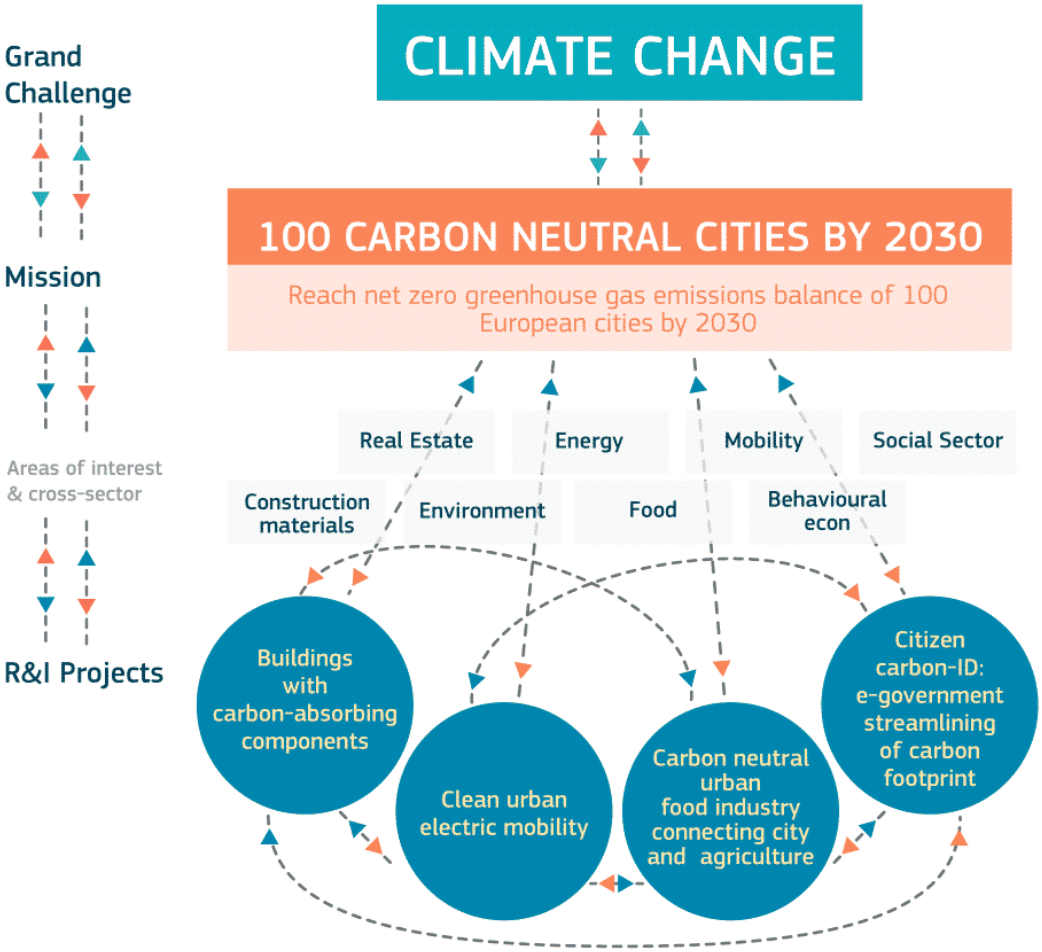
Materials available	Materials Needed
1. Let's Act! Lesson 5, Topic #1 2. Tutorial: How to use Jamboard 3. Tutorial: How to use Nearpod 4. Tutorial: How to use Canva 5. *Best Green cities* online template 6. *Smart Goal setting* template	1. Flipcharts, paper, sticky-notes, post-its, markers 2. Used A4 sheets of paper 3. Printed *Smart Goal setting* templates

Introduction to the topic

Presentation of Role of government - top-down approach

The teacher prepares the classroom for individual and group exercises.

The teacher divides the students into two groups. The students study the Mission Roadmap for 100 Carbon Neutral Cities By 2030 from Let's Act!. Later they create at least 5 questions for the other group about the Mission Roadmap. The students ask their questions and answer the other group's questions.



Mission Roadmap for 100 Carbon Neutral Cities By 2030, designed for the European Commission report European Commission, Directorate-General for Research and Innovation, Mazzucato, M., Mission-oriented research & innovation in the European Union : a problem-solving approach to fuel innovation-led growth, Publications Office, 2018, https://data.europa.eu/doi/10.2777/360325

Some questions that can guide the discussion can be:

- What is the problem identified in the mission map above?

- What goal is framed to help solve the problem?
- Why is real estate an important sector contributing to promoting carbon-neutral cities?
- Why is mobility an important sector contributing to promoting carbon-neutral cities?

Discussion phase

Role of policymaking in achieving net-zero by 2050

The teacher divides the students into 3-4 groups, depending on the total number of students. The students watch the video Is Copenhagen the World's Most Sustainable City? (Duration 5:58) to learn how the city of Copenhagen, with the support of the previous Lord Mayor and the local authorities, has set a clear goal to become CO2 neutral by 2025. It is a complex affair involving many policy areas and various stakeholders' engagements.

Watch the video by clicking here

In the groups the students discuss what is the sustainable policy in order to achieve Net-zero by 2050 in Copenhagen. The teacher proposes to think about *energy use, air and water pollution, transportation and the community*. Later each group chooses another city from the case studies at Wellbeing Economy Alliance and creates a short description about the sustainable policies of these cities to present to the class. (The teacher could mention that they won't always find all the characteristics, sometimes they will find only one or two, for example only about air pollution or clean water).

The students can use the template Best Green cities from a design editor on Canva to add the information and multimedia inside. Later the students can post it on their social media to promote the idea of sustainable green cities in the world.

Note: to use the design as template, the students should sign in to a Canva account and edit it later.

After the presentation, all the students brainstorm what they could take from these case studies to their hometown and country.

Some questions that can guide the discussion can be:

- What green initiatives do you know your city/government provides?
- Which idea is the easiest to implement in your city/country in your opinion?

Instructions for the teacher on how to help students if needed can be found here:

Designing your Poster in Canva | Skills(opens in a new tab)

Some of the main benefits of using Canva can be found here (opens in a new tab)

Reflection and discussion when using videos

Well-being economics for better policy

The teacher divides the students into two groups and prepares two flipcharts: one with the word Economy and another one with the word Care. Each flipchart is divided into two parts: one for the definition, the other for the questions. The students come to the flipchart (one group at a time) and try to create a group definition of what is Economy/Care for them on one side, and ask all the questions that come to their mind about Economy/Care. The questions can be about the word itself or deeper such as What could happen if we had a crisis? or How can I take care of my animals? Later they rotate and add their definitions and questions. The teacher could propose to use different colours for each group to differentiate the answers later.

The students share definitions and questions in plenary.

The students watch the two videos below: The Economics of Arrival (Duration 2:00) and Economy is Care (Duration 5:56) to understand the basic principles of the well-being economic model. Then they should read the article by Alexandra Berendes and try to understand if the videos relate to some of the issues she is confronting.

Watch the first video by clicking here

Watch the second video by clicking here

Read the article by clicking here

Some questions that can guide the reflection can be:

- Do you ever discuss economy with your peers or your family? Why/why not?
- Do you feel you can express your opinions eloquently? Why/why not?
- Would you like to know more about the economy? Why/why not?
- Share your example of the Economy of Arrival.

EU Green deal - policy contributes to the Earth-shot mission

The students watch the video The European Union's Green Deal, Explained (Duration 7:56) with the questions inside on the **Nearpod** video lesson creator. It gives a detailed and comprehensive overview of the EU Green Deal and the EU Recovery Plan (Next Generation EU).

Watch by clicking here

The questions inside the video created with Nearpod aim to reflect on the information presented in the video.

Note: to use the video with the questions the teacher creates the account on Nearpod and adds the video to the account.

Instructions for the teacher on how to use Nearpod if needed can be found here:

How I'm Using Nearpod to Teach EVERY LESSON

Some of the main benefits of using Nearpod can be found here

Some questions that can guide the reflection can be:

- Given that the EU forms one single market, why is it important that the roadmap for achieving net zero comes from the EU rather than each member state?
- Why is it important to implement rules and regulations which companies trust will stay in place for a long time?
- What can food waste be turned into to be valuable to us all?
- What is a public-private partnership, and why are they important?
- bAs climate change is a global issue, how can regional goals and ambitions contribute towards the global mission?
- What responsibilities do the wealthier nations have towards the less affluent countries?

The role of collaboration in identifying Global solutions

The teacher prepares 20 sheets of used paper (A4) per group. The teacher divides the students into smaller groups, up to 6 people. The group has to build the highest paper tower.

- They have 5 minutes for planning and 10 minutes for building.
- They can use only 20 sheets of paper to build the tower (and nothing else).
- The tower has to stand alone (it shall be placed on the floor but can't be supported by any other object).
- During the planning, they can't use any sheets of paper.
- During the building, they can't talk anymore

Some questions that can guide the reflection can be:

- Have you clearly divided responsibilities and roles?
- Was there somebody during the planning or the implementation checking the time?
- How much time did you invest during the planning in teams?
- Have you compared different options?
- Did you have a plan B?

- Did you agree on how to communicate?
- Did the leadership rotate?

The activity presents in an interactive and engaging way the importance of collaboration. It helps to foster mutual tolerance and understanding, accept different points of view, learn non-judgemental behaviour, understand the richness of multiple opinions, engage in a common effort and learn that everybody has limits and everybody has skills.

The students watch the video The incredible collaboration behind the International Space Station (Duration 4:54) to learn about the importance of international cooperation using the example of the International Space Station.

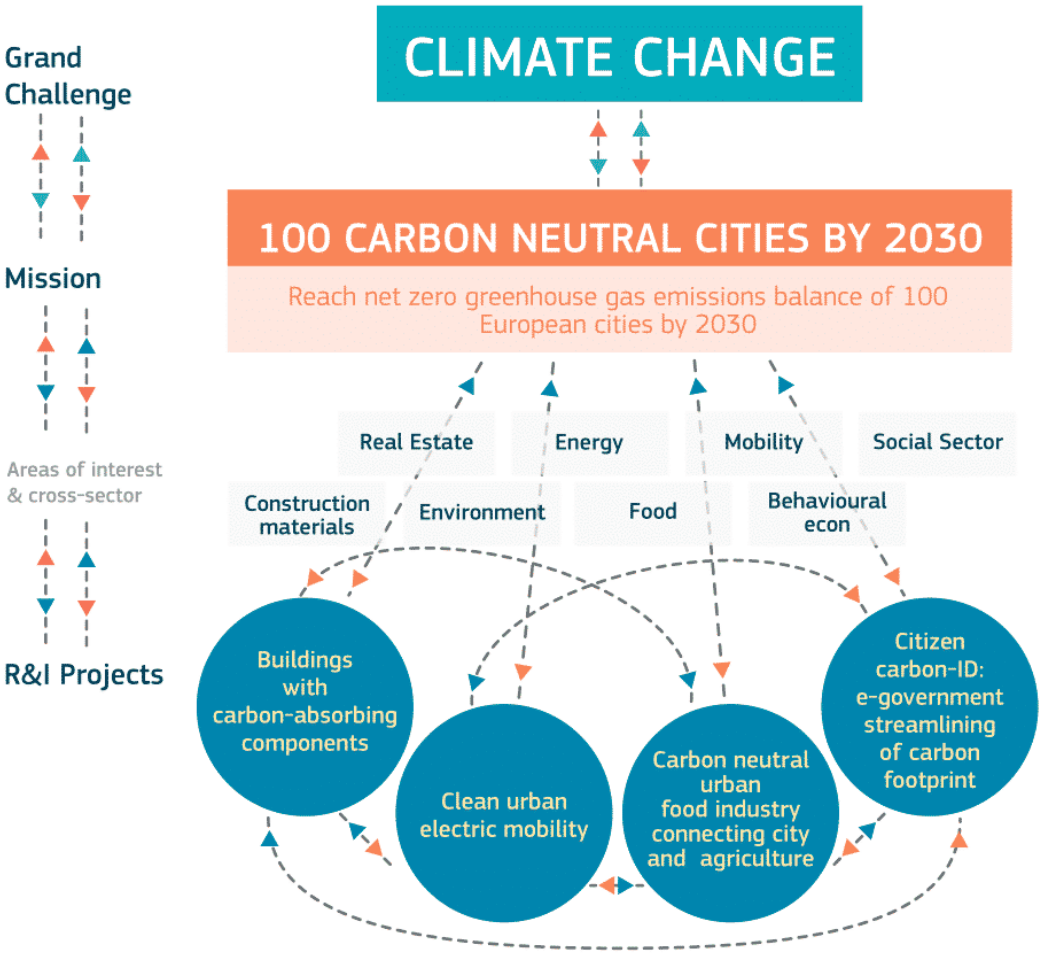
Watch by clicking here

Some questions that can guide the reflection can be:

- Why was international collaboration needed to succeed in building the International Space Station?
- Why is international collaboration needed in addressing climate change?
- What problems could you imagine many partners might face in their collaboration?
- Some countries will contribute more resources to finding solutions - do you think this could be a problem? Explain your reasoning.
- Would you like to be part of an international project? Explain your reasoning

Tasks can be solved in different ways

The students apply the mission map model found above to address an issue that the class is finding challenging. This could, for example, be kinder to each other, improve the eating habits or use fewer resources during class (pens, paper, electricity etc.). They identify a goal and set a date for the mission. Then they identify the areas where they can make minor improvements that contribute to the long-term mission.



Mission Roadmap for 100 Carbon Neutral Cities By 2030, designed for the European Commission report European Commission, Directorate-General for Research and Innovation, Mazzucato, M., Mission-oriented research & innovation in the European Union : a problem-solving approach to fuel innovation-led growth, Publications Office, 2018, https://data.europa.eu/doi/10.2777/360325

Suggestion 1 –

The teacher divides the student into small groups and shares with them the Smart Goal setting template where they should write their goal and check if it is specific, measurable, attainable, relevant and time-bounded. After setting the goal and checking if it is a SMART goal, the students identify areas and small steps for the minor improvements and share it with the classroom.

Suggestion 2 —

The students in small groups create a mission map on Jamboard to address an issue that the class is finding challenging. They identify the goal and write down the small steps to achieve it.

Instructions for the teacher on how to help students if needed can be found here: Google Jamboard Tutorial + Ways to Use It in the Classroom (FREE RESOURCE)

Some of the main benefits of using Jamboard can be found here

Link: Google Jamboard Tutorial + Ways to Use It in the Classroom (Free Source)

Smart Goal Setting Mission Roadmap.pdf
889.5 KB

Corporate social responsibility

Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 5, Topic #2 2. *KWL chart* 3. Tutorial: How to use Powtoon 4. Tutorial: How to use Canva 5. *Mission statement* template 6. *Greenwashing* template	1. Flipcharts, paper, newspapers, glue, scissors, sticky-notes, post-its, markers 2. Printed *KWL charts* 3. Printed *Mission statement* templates 4. Printed *Greenwashing* templates

Introduction to the topic

Presentation of Corporate Social Responsibility

The teacher prepares the classroom for individual and group exercises. The teacher asks the questions:

- Which brands do you consider to be more sustainable and ethical?
- Why is it a company's responsibility to ensure that its suppliers uphold human rights standards?
- Why is it not a company's responsibility to ensure that its suppliers uphold human rights standards?
- Should environmental and social considerations be as important for a company as economic considerations? Justify your answer.

The teacher asks questions and writes down answers on the blackboard/presentation, the number of answers and the number of students in the classroom should be the same. The teacher can decide if asking questions to the students one by one or to give volunteers the opportunity to answer. A question that could help if students think they said everything is: what else? Think deeper, be creative. The teacher can mention that there is no pointless or irrelevant answer.

Discussion phase

Corporate Social Responsibility

The teacher presents the idea of Corporate Social Responsibility and four distinct categories of it: Environmental responsibility, Ethical Responsibility, Philanthropic Responsibility and Economic Responsibility.

The teacher divides the students into small groups and they create a list of 2-3 concrete examples for each of the four responsibilities. They share their ideas in plenary and add to their list ideas of their peers they like.

The students in groups watch the video 21 Years of the UN Global Compact Uniting Business for a Better World (Duration 7:11) about the objective of the UN Global Compact to mobilise global businesses to drive peace and security for all by abiding the principles of the United Nations.

Watch the video by clicking here

Some questions that can guide the discussion can be:

- One day you will enter the job market. Do you think it is essential that the company you work for takes a sustainable approach to business? Explain your answer.
- What area within the CSR would you like the company to focus on the most?
- Why are anti-corruption principles important for society at large?

Reflection and discussion when using videos

Case study - Fashion industry and Greenwashing
The students work in small groups. The teacher shares the KWL chart with them where they need to answer the questions: What do I know? and What I want to know? about corporate social responsibility in the fashion industry and greenwashing.

Kwl Chart.pdf
34.6 KB

The student explore Patagonia's announcement from the paper for Black Friday 2011:

DON'T BUY THIS JACKET

It's Black Friday, the day in the year retail turns from red to black and starts to make real money. But Black Friday, and the culture of consumption it reflects, puts the economy of natural systems that support all life firmly in the red. We're now using the resources of one-and-a-half planets on our one and only planet.

Because Patagonia wants to be in business for a good long time – and leave a world inhabitable for our kids – we want to do the opposite of every other business today. We ask you to buy less and to reflect before you spend a dime on this jacket or anything else.

Environmental bankruptcy, as with corporate bankruptcy, can happen very slowly, then all of a sudden. This is what we face unless we slow down, then reverse the damage. We're running short on fresh water, topsoil, fisheries, wetlands – all our planet's natural systems and resources that support business, and life, including our own.

The environmental cost of everything we make is astonishing. Consider the R2® Jacket shown, one of our best sellers. To make it required 135 liters of water, enough to meet the daily needs (three glasses a day) of 45 people. Its journey from its origin as 60% recycled polyester to our Reno warehouse generated nearly 20 pounds of carbon dioxide, 24 times the weight of the finished product. This jacket left behind, on its way to Reno, two-thirds its weight in waste.

And this is a 60% recycled polyester jacket, knit and sewn to a high standard: it is exceptionally durable, so you won't have to replace it as often. And when it comes to the end of its useful life we'll take it back to recycle into a product of equal value. But, as is true of all the things we can make and you can buy, this jacket comes with an environmental cost higher than its price.

There is much to be done and plenty for us all to do. Don't buy what you don't need. Think twice before you buy anything. Go to patagonia.com/CommonThreads or scan the QR code below. Take the Common Threads Initative pledge, and join us in the fifth "R," to reimagine a world where we take only what nature can replace.

COMMON THREADS INITIATIVE

REDUCE
WE make useful gear that lasts a long time
YOU don't buy what you don't need

REPAIR
WE help you repair your Patagonia gear
YOU pledge to fix what's broken

REUSE
WE help find a home for Patagonia gear you no longer need
YOU sell or pass it on*

RECYCLE
WE will take back your Patagonia gear that is worn out
YOU pledge to keep your stuff out of the landfill and incinerator

REIMAGINE
TOGETHER we reimagine a world where we take only what nature can replace

patagonia
patagonia.com

TAKE THE PLEDGE

* If you sell your used Patagonia product on eBay® and take the Common Threads Initiative pledge, we will co-list your product on patagonia.com for no additional charge.

Later they answer the following questions:

- What do you think the objective of the advertisement was?
- What do you think the outcome was?
- Do you think about the sustainability of the clothes you buy?

Later they watch the video Know their Secret of building a Unique Profitable Business Model (Duration 13:41) to learn more about the history of the Patagonia company and how it has always been faithful to its mission and vision.

Watch the second video by clicking here

Some questions that can guide the discussion can be:

- What was the most inspiring thing for you?
- How do you interpret the business strategy of Patagonia?
- Give another example of a company that cares about the planet.

The teacher presents an example of greenwashing concerning the Volkswagen "Dieselgate" scandal in 2015 from Let's Act!

After that the students answer the following questions:

- What do you think about greenwashing? Explain your position.
- Do you think it is reasonable for a company that consciously tricks its consumers on something as serious as GHG emissions to get away with fines and firing the top executives?
- Do you ever feel fooled by the advertisement promises of any products you buy? Explain which and why.

The teacher shares with the students the Greenwashing template. The students in groups/individually think about the company/brand/product that was presented as a greenwashing example or about one they think could be and would like to discover more. They write the proof they find on the Internet and the changes the company made. If there are no changes found the students could propose their suggestions on how to change the strategy.

Greenwashing.pdf
193.5 KB

The students share ideas with the classroom. Later they fill in the column from the KWL chart, answering the question What did I learn?

Some questions that can guide the reflection can be:

- How big is the problem of greenwashing in your country?
- How important is it to speak about greenwashing?
- What is your favorite fashion/cosmetic brand that cares about the planet? Explain why.

Step by step – how to determine the sustainability of products

The students individually write down 3 associations on what ethical and sustainable branding means for them. Later in small groups they create the definition for ethical branding and sustainable branding.

The students do a small research in groups and present their results in Powtoon presentation/video adding the characters as they are and starting with the note how to check the brand/product.

The students should include:

- Company's mission statement and analyse its values (this includes the working conditions of their suppliers and the environmental impact of the entire supply chain),
- Corporate Social Responsibility Report (if possible),
- Google reviews they found about the brand/product, both positive and negative ones,
- Certification by a reliable third party (check Ecolabel Index).

Instructions for the teacher on how to help students if needed can be found here:

Powtoon Tutorial For Beginners | How to Make Videos on Powtoon | Better than Doodly?(opens in a new tab)

Some of the main benefits of using Powtoon can be found here(opens in a new tab)

Tasks can be solved in different ways

The students individually formulate a mission statement about the type of person they want to be – making it purpose-driven.

The teacher shares the Mission statement template. The students individually fill it in with the purpose (why they want to be this type of person), the vision (what they want to achieve and how) and the values (the list of the values this type of person should have). In the end they write it as a one/two sentence statement. They share it with their peers.

Later they use this statement to understand in groups if their favorite brands/products are ethical and/or sustainable. The students select three of their favourite brands and undertake the five steps to determine if they are ethical and/or sustainable. They highlight any elements that motivate and/or demotivate them to continue to buy products of that brand.

Mission statement.pdf
43.8 KB

Suggestion 1 –

The students present their results as a collage by using newspapers and markers where they compare and rank the ethical and sustainable performance of the chosen brands/products.

Suggestion 2

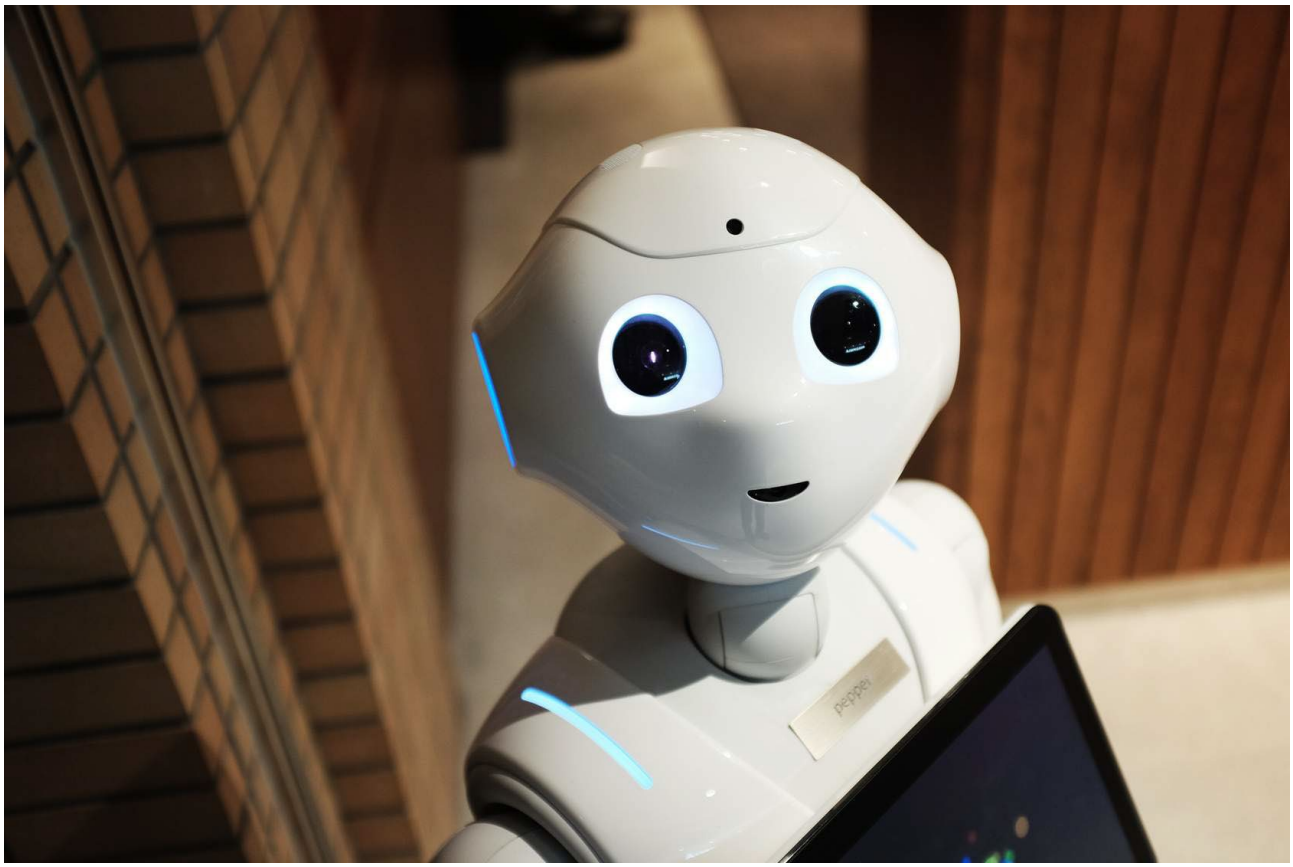
The students create a video where they compare and rank the ethical and sustainable performance of the chosen brands/products. To create a video the students use Canva video creator.

Instructions for the teacher on how to help students if needed can be found here: How to Create VIDEOS with Canva

Some of the main benefits of using Canva can be found here

Link: How to Create VIDEOS with Canva

Technology and innovation



Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 5, Topic #3 2. *Key pillars of the energy transition* sheet 3. Tutorial: How to use Prezi 4. Tutorial: How to use Mentimeter 5. Prepared Mentimeter presentation 6. *Regenerative farming* template	1. Flipcharts, paper, newspapers, glue, scissors, markers 2. Printed *Key pillars of the energy transition* sheets 3. Printed *Regenerative farming* templates

Introduction to the topic

Presentation of Technology and innovation topic

The teacher prepares the classroom for individual and group exercises.

The teacher starts the topic with the funny and interactive quiz creator Baamboozle. The students choose the number and answer the questions individually or as one big group. The questions inside are about intermittent energy sources, challenges with intermittency, new ways of farming and food.

Instructions for the teacher if needed can be found here:

The only ESL game website you'll EVER need | Baamboozle Teacher tutorial

Discussion phase

Key pillars of the energy transition

The teacher divides the students into small groups. The teacher shares with them a cut sheet of Key pillars of the energy transition to match. The students match the word and the definition.

The students explore the report "Net Zero 2050 - A Roadmap for the Global Energy Sector" by the International Energy Agency. They prepare in groups the list of advantages and challenges of using renewable resources in their own country and in the world.

They present their ideas to the classroom.

Some questions that can guide the discussion can be:

- What kind of renewables are more popular and more sufficient in your country?
- How do you understand the connection between building construction and strategy for Net Zero by 2025?
- How do you understand Carbon Capture and Utilization and how could we use it for our planet?

Reflection and discussion when using videos

Case studies - Energy Technology

The teacher divides the students into two groups. The first group watches the video How mirrors could power the planet and prevent wars (Duration 9:27) to learn more about a CSP pilot plant and how recent developments are making it much more cost-effective and, thus, possibly very useful in meeting our 2050 energy demands, especially in manufacturing steel and cement, which needs a lot of heat.

Watch the video by clicking here

The second group watches the video The future of energy starts with rebuilding the battery | Hard Reset (Duration 9:16) to understand how ReCell is trying to optimise the recycling process of batteries and pioneer in a sector that is expected to boom.

Watch the video by clicking here

They create a collage/presentation to present the topic from the video to another part of the class with adding at least 5 questions to better understand the material. They mention:

- Why and how people use/propose to use this technology
- What is the difference with the previous one?
- What is the future of it?

The students can create the presentation with interactive creator Prezi or create a collage using newspapers, glue, scissors and markers.

Instructions for the teacher on how to help students if needed can be found here:

How to make a Prezi presentation(opens in a new tab)

Some of the main benefits of using Prezi can be found here(opens in a new tab)

The students present the topic in the classroom and ask the questions to their peers.

Some questions that can guide the reflection can be:

- Why is artificial intelligence essential to reduce costs and deliver electricity from CSP?
- Why are they storing the energy in rock?
- How do they convert hot rocks into usable energy?

- How does the provision of non-fossil fuels relate to war?
- Can you think of recent examples where your country has been put under pressure by a third country due to the provision of energy in the form of fossil fuels?
- Why are batteries so crucial in delivering alternatives to fossil fuels?
- Why is it beneficial to avoid dissolving the metals in acid or melting them (also called "direct recycling of batteries")?
- Why is the way batteries are assembled important for direct recycling?
- What does design for recycling mean?
- Can you apply that concept to products other than batteries?
- What does "economies of scale mean", and why is it essential to battery recycling?

Key processes of the agricultural transition

The teacher shows the presentation created with interactive presentation creator Mentimeter. The students answer the questions that will appear in the slides. Later the teacher shows the last slide (Q&A slide), and the students can type from their phone the questions that come to their mind. Those questions will appear in the presentation and will be helpful to start the discussion in the classroom.

The questions inside are about advantages and disadvantages of cultivating monocultures and polycultures, energy use in food production and reducing or replacing the traditional energy with renewable energy.

Note: to use the presentation create an account on mentimeter.com and copy the presentation to your account.

Instructions for the teacher on how to help students if needed can be found here:

How to Create Your First Mentimeter Presentation - 7 Minute Crash Course Tutorial

Some of the main benefits of using Mentimeter can be found here

Regenerative farming

The teacher divides the students into two groups. The first group watches the video (Duration 11:03) to learn more about the operation of one of the world's most advanced vertical indoor farms and understand how to grow food indoors while saving on energy and water, all while polluting less.

The second group watches the video (Duration 7:02) to learn how Solar Food attempts to disconnect food production from agriculture by making a nutritious new protein-rich food type, Solein, from thin air.

To watch the first video click here

To watch the second video click here

The students fill in the form Regenerative farming: one per group and later present the results to the class in order to introduce one of the new ways of farming.

Regenerative farming.pdf
33.5 KB

Some questions that can guide the reflection can be:

- Which regenerative farming is most probable to appear in your
- What surprised you the most?
- How will it change our understanding of farming?

Civil society and individuals

Duration: 90 minutes

Materials available	Materials needed
1. Let's Act! Lesson 5, Topic #4 2. Tutorial: How to use Padlet 3. Tutorial: How to use Magisto 4. Tutorial: How to use Riverside 5. *Brainstorming Civil society and individuals* template 6. *List of actions* template	1. Flipcharts, paper, newspapers, glue, scissors, sticky-notes, post-its, markers 2. Printed *Brainstorming Civil society and individuals* templates 3. Printed *List of actions* templates

Introduction to the topic

Presentation of Civil society and individuals

The teacher prepares the classroom for individual and group exercises.

The students in small groups brainstorm on the question: Is striking from school an effective way to 'fight' for a better climate? The teacher shares with them the template Brainstorming Civil society and individuals with the useful questions to foster the brainstorming process.

Brainstorming Civil society and individuals.pdf
38 KB

The students share their ideas with the classroom.

Some questions that can guide the discussion can be:

- Does the new knowledge you have gained about the role of technology motivate you to take action?
- Name a civil society organisation that 'fights' for a cause that is important to you.
- If you have a bigger shoe size, does that mean you have a bigger ecological footprint?
- What are social norms, and is it easy to change the social norms of a given community?

Discussion phase

How civil society impacts policy-making

The teacher shortly presents each CSO. The teacher divides the students into 8 small groups. Each group of students explore one CSO that work tirelessly for increased sustainability:

- Greenpeace
- Clean Clothes work
- The Restart project
- Plant for the planet
- World Saving Hustle
- Global Footprint Network
- Trainings.350.org
- Fashion Revolution

The students present the information they gained to the class in the form of the poetry about CSO. They mention what it is about, who is involved, what is the field of their actions, who is the main target and how each individual can contribute.

Reflection and discussion when using videos
Understand your ecological footprint

The students watch the video (Duration 5:00) to learn how to reduce your environmental footprint.

Watch by clicking here

In small groups students create a list of the proposed actions by the author. The students adapt it to their community and write inside of each category 3 actions they can do individually or as a group/school/town/country.

They present the results to the class.

Some questions that can guide the reflection can be:

- How will you explain what an ecological or environmental footprint is?
- Which changes are the easiest in your life in order to change your footprints?
- How can individual changes positively impact the planet?

The students go to the Global Footprint Network . They calculate their carbon footprint individually.

They go to the Footprint Explorer Open Data Platform new tab) and explore which populations have the lowest and the highest footprints per person. Working in small groups they choose one of each (low and high) and identify possible reasons. Later they explore the biocapacity per person in the Footprint Explorer Open data and choose one of each (low and high) and identify possible reasons.

The students go to Designing our future - Footprint Scenario Tool by Global Footprint Network . They suggest solutions for the four countries. The solutions can include actions to be taken regarding energy consumption, transportation types, agriculture methods, food production and consumption and individual household decisions.

The students watch the video What YOU can do about climate change (Duration 8:16) to explore the possibilities.

Watch the second video by clicking here

In the end of the research they create a poster, a podcast or video for presenting the solutions. It should focus on issues in everyday life and include a plan for how to act on the solutions.

Note: The poster could be created in the traditional way or using collaborative platform Padlet where the students can post information and multimedia, and can work all together simultaneously. The phone video creator to be used could be Magisto. The website and app for creating the podcasts could be Riversade .

Instructions for the teacher on how to help students if needed can be found here:

Padlet Tutorial for Teachers

How to Use Magisto - Video Editor & Music Slideshow Maker Android 2021

Share Slides on Riverside: New Presentation Recorder Feature

Some of the main benefits of using Padlet can be found here and Magisto here

How social norms influence individual decisions

The students watch the video about Norms and Values (Duration 1:11) to explore more about cultural differences in norms and values.

Watch by clicking here

The students in small groups create the list of 10 social norms and 10 values in their community and culture. They write each idea on the post-it. Later they exchange their post-its with other groups and they need to categorise which one is the value and which one is the social norm.

Some questions that can guide the reflection can be:

- Which of them were common for most of the groups? What do you think, why?
- Give an example of the social norms and values for other cultures.
- How could we understand our values better?

Tasks can be solved in different ways

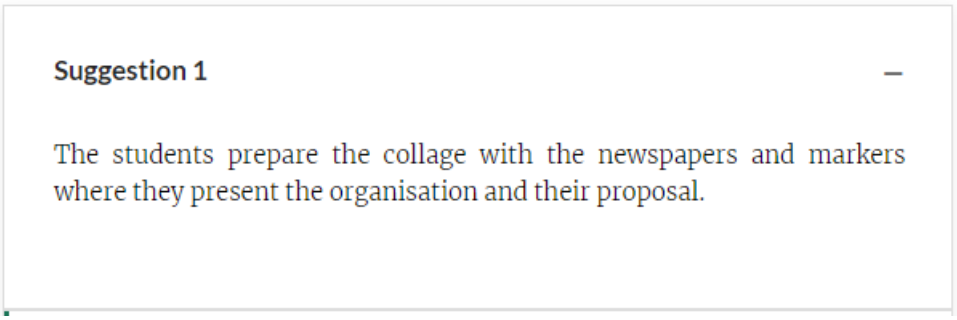
First part:

The students identify CSOs in their local area and find an organisation that is working for sustainable development (in the field of Green House Gas emissions, Energy, Food, Waste management, Agenda 2030). The students contact the organisation by email, phone or visit and explore how they are working and which kind of results they can present.

The students develop a small presentation about the chosen organisation:

Present organisations' purpose, content and results;

Make new proposals for the organisation's work.



Suggestion 2 —

The students create the presentation of the chosen organisation in the media creation platform Genially. They add interactive elements in order to provide the information and create their proposal. They can use videos, pictures from the library or their own.

Instructions for the teacher on how to help students if needed can be found here:
How to use Genially: first steps

Second part:

The students individually make a list of actions they take in the following fields and identify who is influencing when they take action. The teacher shares the List of actions template.

After filling it in individually they share their ideas and try to create a common list of the actions for their class and put it on the wall in order to remember everyday where they are moving.

List of actions.pdf
673.7 KB