TEACHING PACK

10 Environmental Education Lesson Plans

ActOver Project | Erasmus+ KA210-SCH

A complementary visual edition inspired by the original Teaching Pack, with a new nature-themed design featuring leaves, biodiversity and environmental motifs.

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Lesson 1: Decoding Your Ecological & Carbon Footprint

Subject Focus: Environmental Science / ICT / Geography

Duration: 45–60 minutes

LEARNING OBJECTIVES

• Understand direct vs. indirect greenhouse gas emissions.

• Calculate personal and household carbon footprints using digital assessment tools.

• Formulate actionable, realistic personal reduction pledges.

Materials & Digital Tools: Internet-connected devices (smartphones/computers), interactive whiteboard, WWF Footprint Calculator (footprint.wwf.org.uk).

INSTRUCTIONAL PROCEDURE

Phase	Duration	Pedagogical Strategy & Activity Details
Warm-up / Hook	7 mins	Display everyday items on the board (e.g., a smartphone, a cotton t-shirt, an imported fruit). Ask students to rank them by estimated hidden emissions.
Core Exploration & Analysis	13 mins	Presentation on primary vs. secondary emissions. Clarify key emission drivers: residential energy use, dietary patterns, transportation modes, and consumer choices.
Collaborative Activity	20 mins	Students complete the WWF Footprint assessment individually. In pairs, students analyze their largest contributor and co-draft a "3-Step Personal Reduction Pledge".
Wrap-up & Eco-Commitment	5 mins	Compile class results into a collective average on the board and reflect on common systemic lifestyle challenges.

Lesson 2: Renewable Energy Transition & Local Solutions

Subject Focus: Physics / Technology / Social Studies

Duration: 45–60 minutes

LEARNING OBJECTIVES

• Compare renewable energy sources (solar, wind, hydro, geothermal) with fossil fuel systems.

• Evaluate the practical and economic feasibility of renewable installations in schools and community buildings.

Materials: Infographics of the national energy grid, case study cards, poster paper, markers.

INSTRUCTIONAL PROCEDURE

Phase	Duration	Pedagogical Strategy & Activity Details
Warm-up / Hook	5 mins	Display a dual-axis graph illustrating global average temperature rise alongside fossil fuel consumption over the past 150 years.
Core Exploration & Analysis	15 mins	Interactive discussion on energy efficiency, intermittency challenges, and emerging renewable solutions (photovoltaic panels, wind turbines, grid-scale batteries).
Collaborative Activity	20 mins	"Green School Energy Audit" — Teams examine school infrastructure (sun exposure, roof area, natural airflow, insulation) and outline a school renewable installation plan with an estimated ROI narrative.
Wrap-up & Eco-Commitment	5 mins	60-second elevator pitches per team. Class votes on the most viable proposal.

Lesson 3: Circular Economy & The Five R’s

Subject Focus: Economics / Design & Technology / Ethics

Duration: 45–60 minutes

LEARNING OBJECTIVES

• Contrast linear ("take-make-waste") and circular economic models.

• Apply the 5 R’s hierarchy (Refuse, Reduce, Reuse, Repurpose, Recycle) to everyday consumer products.

Materials: Sample packaging, recyclable items, e-waste examples, design worksheets.

INSTRUCTIONAL PROCEDURE

Phase	Duration	Pedagogical Strategy & Activity Details
Warm-up / Hook	8 mins	Trace the lifecycle of a single-use plastic water bottle from petroleum extraction to landfill decomposition.
Core Exploration & Analysis	12 mins	Explain closed-loop systems, cradle-to-cradle manufacturing, and the economic benefits of minimizing waste.
Collaborative Activity	20 mins	"Upcycling Innovation Challenge" — Groups select an item typically classified as municipal waste and develop a functional, marketable upcycled prototype sketch.
Wrap-up & Eco-Commitment	5 mins	Mini-exhibition with sticky notes providing peer feedback on creativity, feasibility, and resource reduction.

Lesson 4: Fast Fashion & The Hidden Cost of Textiles

Subject Focus: Social Sciences / Visual Arts / English Language

Duration: 45–60 minutes

LEARNING OBJECTIVES

• Investigate the environmental and social impacts of fast fashion (water depletion, synthetic microfibers, chemical dyes).

• Propose responsible consumer habits and community textile initiatives.

Materials: Clothing labels, textile lifecycle infographics, sticky notes.

INSTRUCTIONAL PROCEDURE

Phase	Duration	Pedagogical Strategy & Activity Details
Warm-up / Hook	7 mins	Students check the labels on their own clothes: note fabric blends (polyester, cotton, elastane) and countries of manufacture.
Core Exploration & Analysis	13 mins	Discussion on the thousands of liters of water required for one cotton shirt, plastic shedding during laundry cycles, and global garment waste.
Collaborative Activity	20 mins	"Sustainable Wardrobe Campaign" — Students create flyers or social media mockups outlining practical actions: clothing swaps, garment repair skills, and recognizing eco-certifications (GOTS, OEKO-TEX).
Wrap-up & Eco-Commitment	5 mins	Personal reflection: commit to wearing an existing piece of clothing longer or repairing a damaged item.

Lesson 5: Urban Biodiversity & The "Erasmus Tree" Ecosystem

Subject Focus: Biology / Ecology

Duration: 45–60 minutes

LEARNING OBJECTIVES

• Define urban biodiversity corridors and micro-habitats.

• Analyze the ecological and cultural role of urban tree planting in school environments.

Materials: Magnifying glasses, mobile cameras/identifying apps, tree identification field guide, schoolyard access.

INSTRUCTIONAL PROCEDURE

Phase	Duration	Pedagogical Strategy & Activity Details
Warm-up / Hook	5 mins	Contrast images of a manicured grass lawn with a native micro-forest; discuss species richness.
Core Exploration & Analysis	15 mins	Mini-lecture on the urban heat island effect, carbon sequestration by mature trees, and underground mycorrhizal networks.
Collaborative Activity	20 mins	Field Observation — Students visit the school green space and the project's "Erasmus Tree". They record tree species health, foliage conditions, soil moisture, and associated fauna (insects, birds).
Wrap-up & Eco-Commitment	5 mins	Develop a collaborative watering and care schedule for schoolyard greenery.

Lesson 6: Water Conservation & Aquatic Pollution (Microplastics)

Subject Focus: Chemistry / Environmental Science

Duration: 45–60 minutes

LEARNING OBJECTIVES

• Map the path of municipal runoff and wastewater into aquatic ecosystems.

• Investigate the hazards of microplastics and chemical runoff on marine life.

Materials: Clear water jars, coffee filters, sand, gravel, charcoal, magnifying glasses.

INSTRUCTIONAL PROCEDURE

Phase	Duration	Pedagogical Strategy & Activity Details
Warm-up / Hook	6 mins	Review a degradation timeline chart of common marine debris (e.g., fishing line, plastic bags).
Core Exploration & Analysis	14 mins	Presentation on point vs. non-point source pollution, eutrophication, and microplastic bioaccumulation in marine food chains.
Collaborative Activity	20 mins	Water Filtration Experiment — Groups construct a multi-layer filter column (gravel, sand, activated carbon) to clarify simulated polluted water, assessing what physical filters can and cannot eliminate.
Wrap-up & Eco-Commitment	5 mins	Brainstorm 3 household changes to prevent microplastic shedding and hazardous liquid dumping.

Lesson 7: Sustainable Food Systems & Food Miles

Subject Focus: Health / Nutrition / Geography

Duration: 45–60 minutes

LEARNING OBJECTIVES

• Calculate food miles and evaluate agricultural emissions across supply chains.

• Compare seasonal, local, and plant-forward dietary patterns with resource-intensive options.

Materials: Sample grocery receipts/packaging, world map handouts, nutritional charts.

INSTRUCTIONAL PROCEDURE

Phase	Duration	Pedagogical Strategy & Activity Details
Warm-up / Hook	6 mins	Trace the flight and freight journey of an exotic fruit from another continent to the local market shelf.
Core Exploration & Analysis	14 mins	Examine the resource intensity of livestock production versus plant agriculture, alongside methane emissions generated by organic waste in landfills.
Collaborative Activity	20 mins	"Low-Carbon School Lunch Menu" — In teams, students design a nutritionally balanced, culturally appealing three-course meal emphasizing local, seasonal, plant-rich produce with zero single-use plastics.
Wrap-up & Eco-Commitment	5 mins	Present menus; vote on the best balance of low emissions, nutrition, and cost.

Lesson 8: Climate Disinformation & Media Literacy

Subject Focus: Media Literacy / English / Critical Thinking

Duration: 45–60 minutes

LEARNING OBJECTIVES

• Identify greenwashing tactics in advertising and corporate public relations.

• Distinguish peer-reviewed scientific consensus from sponsored corporate media spin.

Materials: Commercial ads containing green claims ("eco-friendly", "all natural", "carbon neutral"), analysis rubrics.

INSTRUCTIONAL PROCEDURE

Phase	Duration	Pedagogical Strategy & Activity Details
Warm-up / Hook	5 mins	Compare two contrasting headlines covering the same environmental policy to identify loaded phrasing.
Core Exploration & Analysis	15 mins	Present the "Seven Sins of Greenwashing" (hidden trade-offs, no proof, vagueness, false labels, etc.).
Collaborative Activity	20 mins	Greenwashing Autopsy — Pairs examine selected advertisements, underline unsubstantiated buzzwords, and rewrite the ad with transparent, factually verified information.
Wrap-up & Eco-Commitment	5 mins	Formulate a 3-question critical checklist to evaluate eco-labels before buying.

Lesson 9: Youth Eco-Advocacy & Digital Campaigning (Podcasting)

Subject Focus: ICT / Communications / Civic Education

Duration: 45–60 minutes

LEARNING OBJECTIVES

• Structure persuasive, fact-based ecological audio/video messages.

• Draft and record a short podcast episode segment addressing a specific environmental concern.

Materials: Audio recording apps on mobile phones/computers, script templates, microphones (optional).

INSTRUCTIONAL PROCEDURE

Phase	Duration	Pedagogical Strategy & Activity Details
Warm-up / Hook	5 mins	Listen to a 45-second high-impact youth podcast snippet tackling a local environmental problem.
Core Exploration & Analysis	12 mins	Dissect the anatomy of an effective advocacy script: Hook $\rightarrow$ The Reality (Data) $\rightarrow$ The Human Story $\rightarrow$ Actionable Call to Action (CTA).
Collaborative Activity	23 mins	Scripting & Recording — Pairs select an issue (e.g., single-use coffee cups, idling cars outside school) and write a 2-minute dialogue script, followed by an immediate trial audio recording.
Wrap-up & Eco-Commitment	5 mins	Selected pairs play their 30-second opening hook for peer constructive feedback.

Lesson 10: School Action Plan & The ActOver Final Exhibition

Subject Focus: Project Management / Interdisciplinary / Leadership

Duration: 45–60 minutes

LEARNING OBJECTIVES

• Synthesize environmental competencies acquired across prior lessons.

• Plan, curate, and coordinate interactive stations for a school-wide ActOver dissemination exhibition.

Materials: Large poster boards, exhibition floor plan template, task assignment checklist.

INSTRUCTIONAL PROCEDURE

Phase	Duration	Pedagogical Strategy & Activity Details
Warm-up / Hook	5 mins	Revisit the core motto of ActOver: transforming environmental knowledge into visible institutional change.
Core Exploration & Analysis	10 mins	Review curation principles: interactive exhibits, clean data visualization, storytelling, and audience engagement.
Collaborative Activity	25 mins	Exhibition Committee Planning — Students divide into designated teams:* Station A: Ecological Footprint & WWF Survey Results* Station B: Renewable Energy & Green School Proposals* Station C: Circular Economy & Upcycled Creations* Station D: Digital Media Hub (Podcasts, e-Magazine Preview, Video Clips)Each committee drafts their booth layout, necessary materials, and interactive visitor challenge.
Wrap-up & Eco-Commitment	5 mins	Finalize task ownership, timeline milestones, and coordination roles for hosting the exhibition.