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GREEN LOOP

Lesson Plans

Romania

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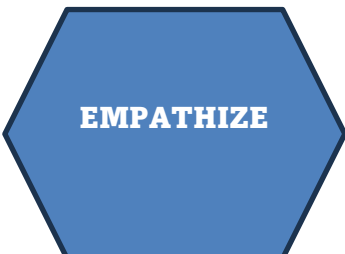
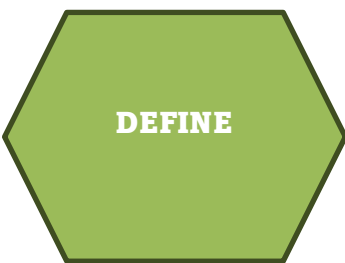
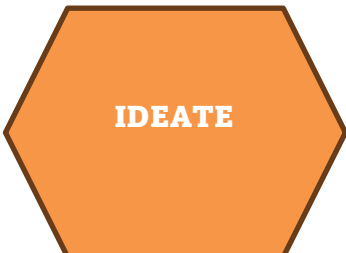
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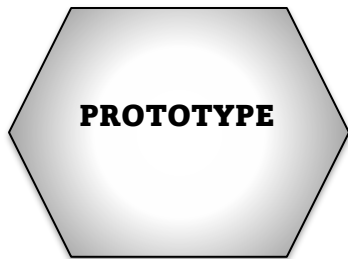
GREEN LOOP LESSON PLAN

Lesson Title	PET Comes to Life – From Waste to Resource
Curriculum Link / Subject	Science, Visual Arts, ICT, Civic Education
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☒ Recycle
Teacher	Lucaciu Anca Maria
Grade Level	7-8
Time/Duration	90 minutes
Objectives	Academic/subject /thinking skills objectives Students identify PET pollution, analyze causes, collaborate, and create solutions.
	Sustainability/Circular Objectives Students understand the circular economy and propose reuse solutions.
Systems Thinking Elements	• What affects what? • Where does waste or impact leak? • What small intervention could make a big difference? Trends and consumption create waste; reuse and recycling reduce impact.

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	• <i>Teacher Role:</i> Teacher facilitates role-play, interviews, or observation to explore user needs and problems. • <i>Student Role:</i> Students share perspectives, collect data, and discuss real experiences. • <i>Tools/Materials:</i> Padlet, interviews, photos. Video + discussion + role play to explore PET bottle life cycle.
	• <i>Teacher Role:</i> Teacher guides students to frame the core problem as a clear “How might we...?” question. • <i>Student Role:</i> Students define problem: How might we give PET bottles a second life? • <i>Tools/Materials:</i> Whiteboard, Google Docs, Padlet, photos, etc • <i>Expected Output:</i> Problem statement.
	• <i>Teacher Role:</i> Teacher encourages brainstorming and divergent thinking without judgment. • <i>Student Role:</i> Students generate multiple creative ideas, then prioritise top 1–2. • <i>Tools/Materials:</i> Sticky notes, Miro, Canva. • <i>Expected Output:</i> Students brainstorm solutions (object, decoration, campaign).

 PROTOTYPE	• <i>Teacher Role:</i> Teacher supports students in creating draft solutions in simple, tangible forms. • <i>Student Role:</i> Students create posters, models, mock apps, or campaign materials. • <i>Tools/Materials:</i> Canva, Flip, paper, markers, digital apps. • <i>Expected Output:</i> Students create objects using PET bottles.
 TEST & ITERATE	• <i>Teacher Role:</i> Teacher organises peer feedback sessions and encourages revisions. • <i>Student Role:</i> Students present their solution, receive feedback, and refine their design. • <i>Tools/Materials:</i> Peer feedback forms, Google Forms, Flip, Padlet. • <i>Expected Output:</i> Students present work and receive peer feedback.
Assessment & Reflection	• Teacher: Observation • Peer feedback (structured form or comments) • Student self-reflection (journal, Flip video, exit ticket)
Inclusion Strategies (UDL)	• How will SEN/ELL learners be supported? • What adaptations (visuals, scaffolds, group roles, language supports) will be offered? Movement, visuals, group work, choice, sentence starters.
Real-World Connection / Impact	• Who will see or use this work (class, school, parents, community)? • What real change could this activity create in school or daily life? Students apply learning to daily habits and sustainability actions.

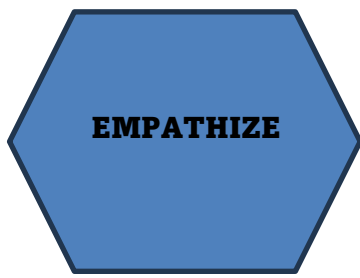
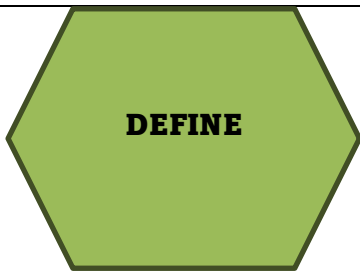
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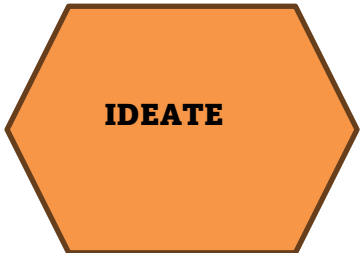
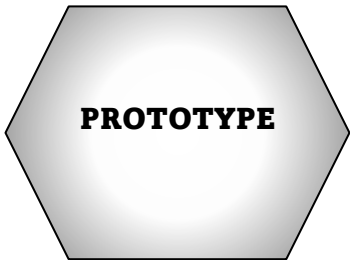
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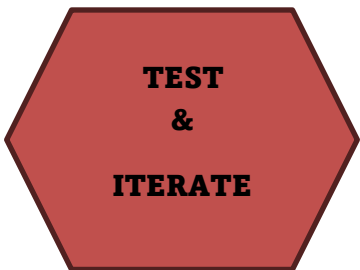
GREEN LOOP LESSON PLAN

Lesson Title	From Waste to Resource – Exploring the Circular Economy
Curriculum Link / Subject	Science, Civic Education, Technology Education, Geography Aligned with the Romanian curriculum: • Science (Grade 6): Environment and human health, energy and resources • Civic Education (Grade 7): Responsible citizenship, sustainable communities • Technology: Efficient use of materials and sustainable design • Geography: Natural resources and human–environment interaction
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☒ Recycle
Teacher	Mrs. Fabiola Goicovici
Grade Level	6 th -8 th graders
Time/Duration	3–4 lessons (approximately 3–4 hours total)
Objectives	Academic/subject /thinking skills objectives • Analyze how products are used and disposed of • Understand the difference between linear and circular systems • Collaborate in groups to solve a real-world problem • Develop creative and critical thinking through design
	Sustainability/Circular Objectives

	Students will: • Identify waste in everyday products • Explain circular economy principles • Propose reuse and upcycling solutions • Reflect on personal consumption habits
Systems Thinking Elements	What affects what? • Consumption habits → waste production • Product design → environmental impact • Human choices → sustainability Where does waste or impact leak? • Single-use products • Lack of reuse or repair • Poor waste management What small intervention could make a big difference? • Reusing products • Repairing items • Upcycling materials

 EMPATHIZE	• <i>Teacher Role:</i> Introduces topic through video and discussion Facilitates brainstorming and product analysis • <i>Student Role:</i> Reflect on waste and consumption Analyze everyday products Discuss real-world impact • <i>Tools/Materials:</i> Short video on circular economy Venn diagram worksheet Classroom discussion Everyday objects (bottles, clothes, jars, containers) Expected Output Understanding of linear vs circular economy Identification of waste problems
 DEFINE	• <i>Teacher Role:</i> Guides students to identify the core problem • <i>Student Role:</i> Define the problem based on analysis Example Problem Statement “How might we reduce waste by giving everyday products a second life?”

	<i>Tools/Materials:</i> Sticky notes, Brainstorming board, Product lifecycle worksheet <i>Expected Output:</i> Clear group problem statement
 IDEATE	<i>Teacher Role:</i> Encourages brainstorming and creative thinking. Provides structure (planning sheet) <i>Student Role:</i> Students generate ideas on how to reuse or transform waste objects into useful items. Select the best solution <i>Tools/Materials:</i> Sticky notes, brainstorming board, group discussion <i>Expected Output:</i> Selected idea for project
 PROTOTYPE	<i>Teacher Role:</i> Facilitates hands-on work. Provides feedback and guidance. Ensures safety <i>Student Role:</i> Create a product from waste materials. Apply circular principles <i>Tools/Materials:</i> ✓ Old clothes ✓ Jars and containers ✓ Boxes ✓ Scissors, glue, tape, markers, string, etc <i>Expected Output:</i> A functional or creative upcycled product

	• <i>Teacher Role:</i> Organises a gallery walk and peer feedback session. Guides reflection • <i>Student Role:</i> Students present their projects, give and receive feedback from classmates, and discuss improvements. Activity • Gallery walk • Peer feedback: ○ One thing I liked ○ One suggestion • <i>Tools/Materials:</i> ✓ Sticky notes for feedback ✓ Reflection questions ✓ Presentation materials • <i>Expected Output:</i> Improved ideas and reflection on sustainability.
Assessment & Reflection	Assessment methods include: • ? Venn diagram (concept understanding) • ? Product lifecycle chart (real-world application) • ? Upcycling project (creativity and collaboration) • ? Group presentation (communication) • ? Written reflection (personal insight)

	Students reflect on questions such as: • What did I learn? • What surprised me? • What will I change?
Inclusion Strategies (UDL)	Support strategies may include: <i>Visual materials (video, diagrams)</i> <i>Group collaboration</i> <i>Hands-on activities</i> <i>Choice in project type</i> <i>Sentence starters:</i> Our idea is... This helps because... This reduces waste by...
Real-World Connection / Impact	Students connect learning to: • daily consumption habits • waste management • environmental responsibility Possible extensions: • school exhibition • upcycling campaign

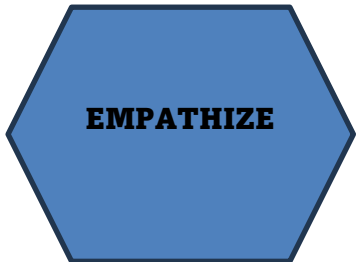
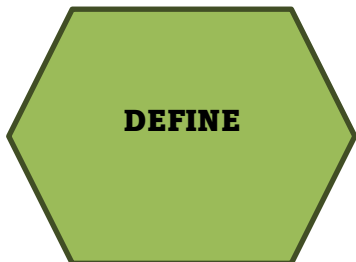
	• community involvement Possible broader impact: • School upcycling challenge • Environmental awareness in the school community • Inspiration for reducing waste in daily life
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GREEN LOOP LESSON PLAN

Lesson Title	What Does Your Closet Say About You?
Curriculum Link / Subject	Social Studies / Personal Development / Sustainability / Design Thinking
Circular Economy Theme	☐ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☐ Recycle
Teacher	Goicovici Fabiola
Grade Level	13-15 years old
Time/Duration	90 minutes
Objectives	Academic/subject /thinking skills objectives - Analyze personal fashion habits and social influences - Collaborate in groups - Develop creative communication through posters, skits, or campaigns
	Sustainability/Circular Objectives - Understand circular fashion - Identify how fashion habits create waste - Suggest ways to reuse, repair, restyle, and share clothes
Systems Thinking Elements	What affects what? - Social media, trends, peer pressure, influencers Where does waste leak? - Buying too often, not repeating outfits, following trends too quickly

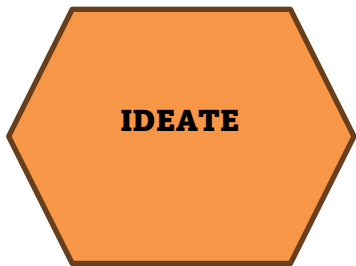
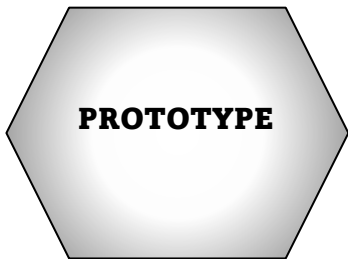
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	What small intervention could make a big difference? - Rewearing outfits, styling clothes differently, repairing items, sharing clothes
 EMPATHIZE	Teacher Role: Facilitates movement games and discussion. Student Role: Students reflect on fashion habits and social pressure. Tools/Materials: A/B/C/D signs, board, projector. Expected Output: Students identify their fashion personality type.
 DEFINE	Teacher Role: Guides students to identify a shared problem. Student Role: Students discuss their habits and define a challenge. Tools/Materials: Board, markers. Expected Output: "How might we use our clothes better without buying more?"

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 IDEATE	Teacher Role: Encourages brainstorming and creativity. Student Role: Students generate ideas to make their fashion type more circular. Tools/Materials: Paper, sticky notes, markers. Expected Output: List of creative solutions.
 PROTOTYPE	Teacher Role: Supports students while they create. Student Role: Students create posters, TikTok ideas, skits, or outfit concepts. Tools/Materials: Paper, markers, Canva, poster sheets. Expected Output: A visual or performance-based prototype.

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	Teacher Role: Facilitates presentations and peer feedback. Student Role: Students present, receive feedback, and improve ideas. Tools/Materials: Peer comments, class discussion. Expected Output: Improved solution idea.
Assessment & Reflection	- Teacher observes participation and collaboration - Peer feedback: one thing that worked + one improvement - Student reflection: “What could I change about my fashion habits?”
Inclusion Strategies (UDL)	- Movement-based activity - Visual posters and slides - Group work and peer support - Choice in final product - Sentence starters on board
Real-World Connection / Impact	Students connect fashion habits to everyday life. They consider how their choices affect waste and sustainability. Their work could be shared in class, around school, or on social media.

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GREEN LOOP LESSON PLAN

Lesson Title	EcoMould innovators: designing waste into value
Curriculum Link / Subject	Interdisciplinary learning: Science, Design & Technology, Environmental Education, Language & Communication, Civic Education, Digital Competence
Circular Economy Theme	☐ Refuse ☒ Reduce ☒ Reuse ☐ Repair ☒ Recycle
Teacher	Buliga-Stochițoiu Roxana
Grade Level	Lower Secondary (ages 10-14)
Time/Duration	Session 1 (50 min) • Empathize – 20 min • Define – 30 min Session 2 (60 min) • Ideate – 30 min • Material Matrix – 15 min • Planning – 15 min Session 3 (90 min) • Prototype – 45 min • Test & Iterate – 20 min • Present & Reflect – 25 min
Objectives	Academic/subject /thinking skills objectives • explain differences between linear and circular economy models using school-based examples. • analyse the life cycle of one everyday school product and identify waste points.

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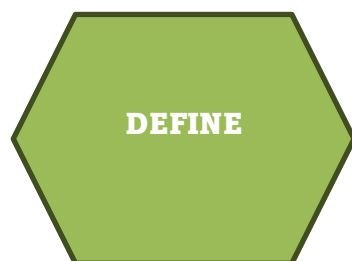
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	• design and build a functional prototype from recycled EcoMould materials. • evaluate their prototype using sustainability, usefulness, feasibility, and creativity criteria. • communicate ideas clearly through oral presentation, visuals, and written reflection.
Systems Thinking Elements	Sustainability/Circular Objectives Students will be able to: • recognise waste as a resource with new potential value; • explain two ways reusing materials reduces pollution and resource consumption; • design and construct one alternative to a plastic-based school item; • propose one sustainable habit change for school life; • connect local actions with global environmental goals; • evaluate how everyday choices affect long-term sustainability. What affects what? Material choices influence waste, costs, product lifespan, and environmental impact. Where does waste or impact leak? Single-use plastics, unnecessary packaging, short product life cycles, poor recycling habits. What small intervention could make a big difference? Replacing disposable school items with student-made reusable eco-products.

	Mini inquiry: School plastic waste survey (10 min) Students complete a quick survey about the most used disposable plastic items in school (bottles, wrappers, folders, pens, packaging, cups). Tool: Mentimeter live poll + results analysis Output: Live graph of class responses. Students explore real needs in school life by observing daily classroom routines and identifying common problems related to waste and organisation. Learning activities Classroom observation: What school items are overused, broken, wasted, or made from plastic? Quick interviews with classmates: What school tools would help you most? Photo prompts or object exploration: pencil holders, labels, trays, organisers, erasers (Appendix 1). Discussion: Why do we buy new things instead of redesigning old materials? Teacher Role Facilitates inquiry, asks guiding questions, encourages curiosity, supports evidence gathering. Student Role Observe, discuss, listen actively, identify user needs, collect ideas. Tools / Materials Used school supplies, recycled objects, Padlet, sticky notes, notebooks, photos. Expected Output List of real classroom problems and user needs.

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Mini systems thinking activity: Journey of a plastic pen (15 min)

Students work in teams and map the life cycle of a plastic pen:

Raw material → Factory → Transport → Shop → School use → Waste → Pollution

Then students compare it with a possible EcoMould product:

Waste paper → Recycled process → Student creation → Classroom use → Reuse / Compost / Low waste

Guiding questions:

- Where does waste leak into the system?
- Which stage creates the most impact?
- Where can we intervene?
- Which product has lower environmental impact?

Expected output:

A simple lifecycle comparison chart or poster.

Students use collected evidence to identify the most urgent waste stream to redesign.

Waste audit challenge

Teams collect data for one school day:

- number of plastic bottles
- snack wrappers
- broken pens
- paper waste
- packaging items

Output:

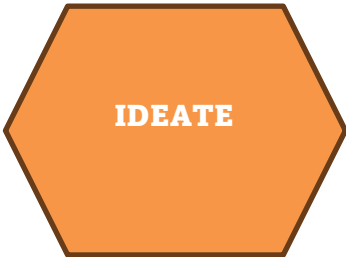
Simple totals chart.

Students synthesise findings and frame a clear design challenge.

Core question

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	How might we design useful, attractive, low-cost school objects from recycled materials using eco-moulding paste? Teacher Role Guides students to prioritise realistic problems and transform ideas into a focused challenge. Student Role Compare findings, identify priorities, agree on one challenge per team. Tools / Materials Whiteboard, chart paper, Google Docs, sticky notes. Expected Output Written problem statement and success criteria.
	Students generate multiple potential solutions through structured creative and critical thinking strategies. • Brainstorming (quantity before quality): students generate as many ideas as possible without judging or rejecting them. The focus is on creativity and free thinking. • Think–Pair–Share: students first think individually about possible solutions, then discuss their ideas with a partner, and finally share them with the whole class. • SCAMPER strategy: students improve or create ideas by asking guided questions: <i>Substitute</i> – What can be replaced? <i>Combine</i> – What can be joined together? <i>Adapt</i> – What can be adjusted or copied from another idea? <i>Modify</i> – What can be changed or improved? <i>Put to another use</i> – Can it be used differently? <i>Eliminate</i> – What can be removed or simplified? <i>Reverse</i> – What can be rearranged or turned around? • Mind mapping design possibilities: students organise ideas visually by connecting the main problem to possible products, materials, and features. • Ranking ideas: Students evaluate their ideas and choose the best one based on:

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Usefulness – Does it solve a real problem?
Sustainability – Is it environmentally friendly?
Originality – Is it creative and innovative?
Feasibility – Can it realistically be made and used?

Possible product ideas

- Pencil holder
- Desk organiser
- Name tag
- Paperweight
- Mini tray
- Bookmark stand
- Plant pot
- Classroom storage labels

Teacher Role

Encourages divergent thinking, ensures every student contributes, promotes respectful collaboration.

Student Role

Generate ideas, sketch concepts, compare options, select the strongest solution.

Tools / Materials

Miro collaborative idea board, paper, pencils, markers, sticky notes.

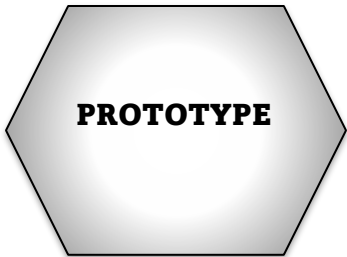
Expected Output

Idea board + labelled design sketch.

Before building their products, students take part in a *Material decision matrix* activity (Appendix 2). This helps them compare possible materials and make informed design choices based on clear criteria rather than guesswork. Working in teams, students analyse each material according to durability, cost, recycled content, biodegradability, and safety.

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	They discuss the strengths and limitations of plastic, cardboard, EcoMould, and wood, then decide which material is most suitable for their product. This process develops critical thinking, decision-making, and sustainability awareness while modelling how real designers select materials. Expected impact Students justify their design choices using evidence and sustainability criteria.
	Students transform ideas into tangible products using eco-moulding paste. EcoMould recipe • shredded paper • water • flour or white glue • optional natural colouring (turmeric, beetroot, cocoa) Learning activities 1. Prepare EcoMould mixture. 2. Shape product using hands or moulds. 3. Reinforce structure if needed using cardboard or reused materials. 4. Add design features (texture, compartments, handles, labels). 5. Leave product to dry. 6. Create a digital version in Tinkercad 3D mock-up. Design criteria • Useful • Stable • Safe • Attractive • Sustainable • Realistic to produce Teacher Role

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	Supports experimentation, demonstrates safe techniques, gives formative feedback. Student Role Build, test, improve, solve problems, manage roles responsibly. Tools / Materials Bowls, spoons, recycled paper, glue/flour, cardboard, scissors, paints, rulers. Expected Output Functional prototype. After creating their prototype, students complete a <i>Budget & Feasibility Check</i> to evaluate whether their eco-product could realistically replace commercial alternatives. They compare the estimated cost of a factory-made product with the cost of producing their EcoMould version. This stage introduces entrepreneurial thinking by encouraging learners to evaluate sustainability alongside affordability and practical implementation. Learners reflect on how schools can reduce costs while making environmentally responsible choices. Reflection prompt Can schools save money by using student-designed eco products? Why or why not? Expected Impact Students connect sustainability, innovation, and economic feasibility in a real-world context.
	Students present products, receive feedback, and improve designs. Peer review questions 1. Is the product useful? 2. Is it durable enough? 3. Is it creative and attractive? 4. Does it reduce waste? 5. Could it be used in real school life? 6. What would you improve?

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	Iteration process • Modify shape • Strengthen weak areas • Improve appearance • Simplify use • Reduce materials used • Add clearer purpose Teacher Role Organises feedback sessions, models constructive critique, guides redesign decisions. Student Role Present confidently, listen to feedback, revise prototype, justify improvements. Tools / Materials Padlet Expected Output Improved prototype with documented changes.
Assessment & Reflection	Teacher rubric / checklist: creativity, feasibility, sustainability, teamwork, presentation, and problem-solving. Peer feedback: structured comments provided during the Test & Iterate phase and after final presentations. Student self-reflection: exit ticket + reflection on challenges, improvements, and learning outcomes. Group Presentation Each group presents its eco-product prototype to the class. They should explain: • the materials used and why they were selected; • the key features of the design and how they support sustainability and practicality; • how the product could function in real school life (classroom, library, desk organisation, school events);

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- any innovative elements that make the product unique or more effective.

Peer and Teacher Feedback

After each presentation, the class provides feedback on:

- the sustainability of the materials used;
- the creativity of the solution;
- the feasibility of the product for real use;
- suggestions for improvement and further development.

Reflection & Discussion

Padlet Digital Reflection Wall

Students respond to prompts such as:

- What did I learn about sustainable design?
- What was the biggest challenge in our team?
- How could our prototype be improved?
- How can eco-design help our school community?

Class Feedback

The teacher and students engage in collaborative evidence-informed decision-making to identify how each design could be improved or adapted. Discussion highlights:

- material selection
- sustainability impact
- ease of use
- affordability
- long-term usefulness

Real-World Outcome

The most feasible solution can be proposed for implementation in the school through an eco-club project, classroom use, or sustainability exhibition.

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Inclusion Strategies (UDL)	SEN/ELL learners are supported through visual instructions, model examples, guided questioning, structured routines, and peer collaboration in mixed-ability groups. Clear step-by-step guidance helps learners access tasks with confidence and independence. Adaptations offered: • vocabulary support with key words, visuals, and sentence starters; • flexible product formats (model, drawing, poster, digital prototype, oral explanation); • clearly assigned group roles (designer, builder, presenter, recorder, timekeeper); • scaffolded mind maps and problem-solving templates; • teacher check-ins and additional processing time where needed; • multimodal expression so students can show learning in different ways.
Real-World Connection / Impact	Audience: classmates, teachers, the eco-club, school leadership, parents, and the wider school community. Impact: the most feasible eco-product design can be selected for real implementation in classrooms or school projects. Student creations may reduce waste, replace less sustainable items, promote responsible habits, and inspire a culture of innovation and environmental responsibility across the school community.

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Appendix 1



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Appendix 2

Material decision matrix

Students compare possible materials (plastic, cardboard, EcoMould) using a scoring table based on cost, recycled content, safety, durability, and biodegradability. In teams, they analyse results and justify which material best suits their chosen product.

Expected Output:

Evidence-based material choice + design justification.

Material	Durable	Cheap	Recycled	Biodegradable	Safe
Plastic	High	Medium	Low	No	Yes
Cardboard	Medium	High	Yes	Yes	Yes
EcoMould	Medium	High	Yes	Yes	Yes
Wood	High	Medium	Yes	Yes	Yes

Material	Cost	Recycled	Safe	Durable	Biodegradable
Plastic	2	1	2	5	0
Cardboard	5	4	4	2	4
EcoMould	4	5	5	3	5

Then students explain why they chose their material.

Product	Factory Version	Eco-Mould Version	Better Choice?
Pencil Holder	€3	€0.50	EcoMould
Name Tag	€1	€0.20	EcoMould
Desk Tray	€5	€1	EcoMould

Budget & Feasibility Check

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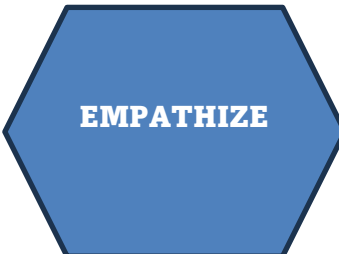
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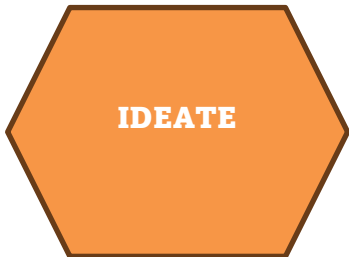
GREEN LOOP LESSON PLAN

Lesson Title	Designing tomorrow: greenpreneurs in action!
Curriculum Link / Subject	English language, Mathematics, Sciences (Physics, Chemistry, Biology), Geography, Technological Education and Practical Applications, Civic / Social Education, Counseling and Career Guidance, Financial literacy
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☒ Recycle
Teacher	Buliga-Stochitoiu Roxana
Grade Level	7 th
Time/Duration	90 min
Objectives	Academic/subject /thinking skills objectives: 1.to identify the key principles of the circular economy and sustainable development; 2.to analyze the difference between a linear economy and a circular economy; 3. to explain how their eco-business model demonstrates responsible resource management and contributes to the achievement of sustainable development goals.
	Sustainability/Circular Objectives: 1. to adopt the role of eco-entrepreneurs and design at least one small-scale sustainable business model within given financial and material constraints; 2.to reflect on resource use by identifying at least three concrete strategies for saving energy, reducing waste, or reusing materials; 3.to practice collaborative problem-solving by working in groups of 4–5 to produce a joint eco-business canvas that integrates at least one circular economy principle.

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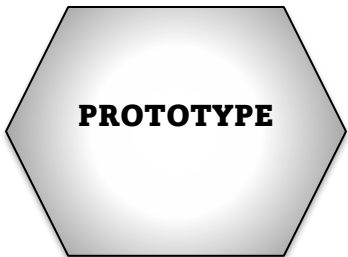
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Systems Thinking Elements	• What affects what? Entrepreneurial choices affect environment, society, and economy. • Where does waste or impact leak? Overuse of resources, pollution, inefficient energy use. • What small intervention could make a big difference? Using renewable energy, reusing materials, community impact projects.
	• <i>Teacher Role:</i> facilitates role-play, interviews, or observation. Introduces the <i>Mystery Object Box</i> to spark curiosity and creative thinking, prompting students to link everyday items to sustainability concepts. • <i>Student Role:</i> Share perspectives, assume defined group roles (eco-designer, budget manager, communicator, evidence keeper), and collaboratively brainstorm how discarded objects can be reused, repurposed, or redesigned. • <i>Tools/Materials:</i> <i>Mystery Object Box</i> (plastic bottle, old T-shirt, tin can, old magazine), sticky notes, markers, Mentimeter for polling, Padlet for idea-sharing. Output: Awareness of linear vs circular economy, creative ideas for reuse.
	• <i>Teacher Role:</i> Guides students in analysing the <i>Eco-Facts Sheet</i> to identify pressing environmental issues at local, national, or global levels. Supports them in turning raw data into a clear, evidence-based problem statement and facilitates the creation of a collective <i>Problem Wall</i>. • <i>Student Role:</i> Act as eco-investigators: extract relevant evidence from the <i>Eco-Facts Sheet</i>, transform it into a concise problem statement, and place it on the <i>Problem Wall</i> using sticky notes. Ensure that the chosen evidence is explicitly referenced in their

	team's visual identity (poster/logo) and acknowledged during the eco-business presentation. • <i>Tools/Materials:</i> Whiteboard, sticky notes, <i>Eco-Facts Sheet</i> (Appendix F). • <i>Expected Output:</i> A clearly formulated, data-driven problem statement linked to environmental issues, visibly displayed on the <i>Problem Wall</i> and serving as the foundation for each group's eco-business design.
	• <i>Teacher Role:</i> Encourages divergent thinking and open brainstorming of eco-business solutions. Prompts students with guiding questions (e.g., <i>How does your business reduce waste? How does it balance costs with environmental impact?</i>), and supports them in refining and prioritising their most feasible ideas. • <i>Student Role:</i> Collaboratively generate multiple creative business ideas grounded in evidence from the <i>Problem Wall</i>. Discuss, compare, and evaluate options before selecting the top idea to develop further. Begin outlining their eco-business model using the <i>Eco-Business Canvas</i> (Appendix G). • <i>Tools/Materials:</i> Sticky notes for brainstorming, <i>Eco-Business Canvas</i> template (Appendix G), guiding questions from the teacher. • <i>Expected Output:</i> An <i>Idea Board</i> with a variety of proposed eco-business solutions and a first draft of the group's eco-business model clearly linked to the identified problem.
	• <i>Teacher Role:</i> Supports students in transforming their selected idea into a tangible prototype. Facilitates decision-making about limited resources (10 coins) and guides them in balancing environmental sustainability, social responsibility, and economic viability. Encourages creativity in both the eco-business model and its visual representation.

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 PROTOTYPE	• <i>Student Role:</i> Collaboratively design their eco-business using the <i>Eco-Business Canvas</i>. Allocate their budget of 10 coins through the <i>Classroom Resource Shop Menu</i>, making trade-offs between cheaper but less sustainable options and more eco-friendly alternatives. Create a visual identity (logo, poster, or slogan) that communicates both their business idea and its link to the evidence chosen earlier. • <i>Tools/Materials:</i> Laptop, large paper, crayons, markers, scissors, glue, coins, <i>Classroom Resource Shop Menu</i> (Appendix G), eco-bonus guidelines. • <i>Expected Output:</i> A complete <i>Eco-Business Canvas</i> with clearly defined budget choices, sustainability strategies, and a creative visual identity that connects the business idea to evidence from the <i>Problem Wall</i>.
 TEST & ITERATE	• <i>Teacher Role:</i> Organises structured peer-feedback sessions following group presentations. Facilitates discussion by asking probing questions (e.g., <i>How does this idea benefit the community? What trade-offs did the team manage?</i>), and encourages students to refine their ideas based on constructive feedback. Recognises and celebrates outstanding contributions through class awards. • <i>Student Role:</i> Present their eco-business concept in a concise 3–4 minute pitch, clearly explaining their product/service, sustainability strategies, and evidence link. Listen actively to peer and teacher feedback, respond to questions, and refine their eco-business model accordingly. Participate in peer evaluation to acknowledge creativity, practicality, and impact. • <i>Tools/Materials:</i> Peer feedback forms, Padlet for collective reflection, classroom discussion prompts, recognition categories (Most Creative Idea, Most Practical Business, Greatest Positive Environmental Impact).

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	<i>Expected Output: An improved eco-business concept refined through peer and teacher feedback, along with peer recognition highlighting innovative, practical, and impactful contributions.</i>
Assessment & Reflection	- Teacher rubric or checklist: uses a rubric or checklist to evaluate <i>creativity, sustainability, problem-solving, collaboration, and presentation skills</i>. Provide targeted feedback that highlights both strengths and areas for improvement. - Peer feedback (structured form or comments): students evaluate each group's eco-business using Padlet or structured feedback forms, focusing on practicality, creativity, and community impact. Recognition categories (e.g., <i>Most Creative Idea, Most Practical Solution, Greatest Positive Environmental Impact</i>) reinforce positive peer assessment. - Student self-reflection (journal, Flip video, exit ticket): Each student responds individually on Padlet (or in a reflection journal) to the following prompts: <i>How could our eco-business idea be made more eco-friendly, practical, or innovative?, What was the hardest trade-off our team faced when designing the eco-business?, In one word, how would you describe how you felt during this activity?</i>
Inclusion Strategies (UDL)	Support for SEN/ELL learners: Provide clear roles within groups (eco-designer, budget manager, communicator, evidence keeper) to ensure equitable participation. Offer visuals such as the <i>Eco-Business Canvas</i> and posters to support comprehension. Scaffolds: Use sentence starters, guiding questions, and structured templates to help students express their ideas clearly and confidently. Language Supports: Introduce and reinforce key terms through keywords, bilingual glossaries, and visual icons to ensure accessibility for English Language Learners.

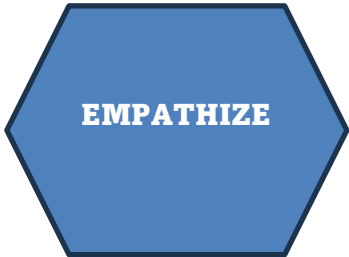
	• Collaboration & Differentiation: Encourage mixed-ability groups so that learners can support one another, and differentiate tasks according to strengths (e.g., drawing logos, budgeting, presenting). • Accessibility: Provide printed and digital resources, ensure instructions are given both verbally and visually, and allow multiple ways for students to demonstrate understanding (oral, written, visual).
Real-World Connection / Impact	• Who will see or use this work (class, school, parents, community)? Classmates, teachers, parents, the wider school community, and potentially local NGOs or businesses will engage with or benefit from the students' projects. • What real change could this activity create in school or daily life? It could increase recycling habits within the school, reduce waste, encourage more sustainable consumption (e.g., reusing, repairing), promote eco-friendly practices in families, and inspire long-term initiatives like a permanent eco-club, green school shop, or partnerships with the local community. Local-Global link: Students connect evidence from the <i>Eco-Facts Sheet</i> with broader sustainability challenges, explicitly linking their eco-business models to the United Nations Sustainable Development Goals (SDGs). Long-Term vision: Selected projects could evolve into ongoing school campaigns, cross-curricular projects, or collaborations with NGOs and local businesses, reinforcing the idea that small-scale student initiatives can inspire real change.

GREEN LOOP LESSON PLAN

Lesson Title	Waste to Worth: rethinking food
Curriculum Link / Subject	Science; Civic Education; Technology
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☒ Recycle
Teacher	Buliga Stochițoiu Roxana
Grade Level	Lower Secondary (ages 10-14)
Time/Duration	Session 1 - 50 min; Session 2 - 45 min; Session 3 - 90 min
Objectives	Academic/subject /thinking skills objectives - Classify at least 3 types of waste and explain their environmental impact using examples. - Analyse food waste by identifying at least 2 causes, 2 effects, and 1 possible solution. - Design and prototype a sustainable compost bin using clear design criteria.
	Sustainability/Circular Objectives - Apply the 5Rs by proposing at least 2 practical actions in real-life contexts. - Evaluate solutions using sustainability, feasibility, and impact criteria. - Connect food waste reduction to SDG 12 and responsible consumption
Systems Thinking Elements	Consumer habits, school routines, sorting systems, and food disposal choices affect the amount of food waste produced. Waste leaks occur through leftovers, poor sorting, disposable packaging, and missed composting opportunities.

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	A practical school composting system and better waste-sorting habits can create an immediate positive impact.
	Teacher Role: Activates prior knowledge and guides observation of real or simulated school food waste. Student Role: Share experiences, classify waste types, discuss compostable materials, and map a product or food item's life cycle. Students use simple observations or collected data to support their analysis of food waste patterns. Tools/Materials: Mentimeter, short composting and circular economy videos, projector, notes, and school waste observations. Expected Output: Word cloud of waste types and a simple life cycle map with a circular redesign idea. SESSION 1 Activity 1 The main purpose is to activate prior knowledge and introduce key concepts related to waste and food systems. Method: brainstorming + guided inquiry + real-world observation Understanding waste - brainstorming to see what they know – we use Mentimeter → Students respond to the prompt: “<i>What types of waste do you know?</i>” and the results are displayed as a word cloud and briefly discussed – 5 min - introduction, discussion, types of waste – 10 min - the difference between trash and garbage - what you are allowed to use when composting – 5 min https://www.youtube.com/embed/jXHanV7ge6E?feature=oembed Students observe or reflect on school waste (real or simulated data) Use systems thinking questions: - 10 mi - What causes food waste?

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- Who is involved?
- What are the consequences?

Activity 2

Purpose: to develop systems thinking and introduce circular economy concepts through real-life examples

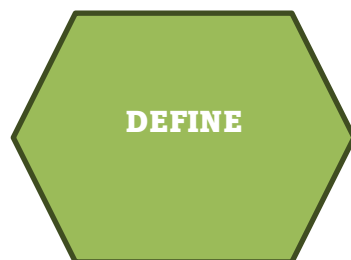
Method: storytelling + group work + visual mapping

Understanding circular economy principles

- **Storytelling: the life of a product (group work)**
 - students select a common item (their T-shirt, their water bottle)
 - steps:
 1. Pick the item
 2. Where does it come from? (raw material)
 3. How is it made? (manufacturing)
 4. How do people use it? (use)
 5. What happens when it's thrown away? Can it be recycled, composted, or upcycled? (end of life)
- now, create your own story
- watch a video explaining the circular economy and discuss key takeaways and discussions: <https://www.youtube.com/watch?v=zCRKvDyyHmI>
- “How could this product be redesigned so that it does not become waste?”
- Students create a personal “life cycle map” of one frequently consumed food item. They must include:
 - origin
 - use
 - waste stage
 - possible circular solution (reuse, compost, etc.)

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Teacher Role: Helps students frame the core challenge through systems thinking and the prompt: How might we reduce food waste in our school?

Student Role: Identify key causes, impacts, and opportunities linked to food waste and school garden needs.

Students reflect on how food waste affects not only the environment but also communities, resources, and responsible consumption behaviours.

Tools/Materials: Whiteboard, Padlet or MindMeister, sticky notes, problem map template.

Guiding questions:

- What affects what?
- Who is responsible?
- What would happen if we changed this system?

Expected Output: Shared problem map and one agreed design challenge.

Based on what we observed about waste, we now define the main problem we want to solve.

SESSION 2

Activity 3

Research & Brainstorming - Design thinking approach

- **Think-Pair-Share:**
 - We encourage students to critically think about the topic, to discuss and share insights, to collaborate
- **Think (individual reflection)**
 - In small groups, students discuss waste problems they have noticed in their school (e.g., plastic waste in schools, food waste at home)
- **Pair (discussion in pairs)**
 - They compare ideas
- **Share (class Discussion)**
 - Each pair shares their ideas with the whole class

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- **Mind Mapping:**

- students are introduced to the fact that we need fertilizer for our school garden, and they should find a solution for how we can use it
How might we reduce food waste?

- Each group creates a mind map of possible solutions for food waste (composting, upcycling, waste segregation, etc.)

Create a Problem Map (CAUSES–IMPACTS–OPPORTUNITIES)

Building on the problem defined in Session 2, students now move to solution design.

SESSION 3

Activity 4

Purpose:

Students identify real-world food waste problems and generate possible circular solutions using systems thinking and collaborative methods.

Method:

Think–Pair–Share + Mind Mapping + Problem Mapping (DBL – Define & Ideate stages)

The design challenge

- a role play: "The Green Company."
- students will create a prototype of a compost bin, considering the materials, design, and functionality to make it sustainable and efficient for food waste management
- Students will role-play as designers at "The Green Company", a company dedicated to providing sustainable solutions for food waste management.

What materials can we use to make our compost bin environmentally friendly and functional?

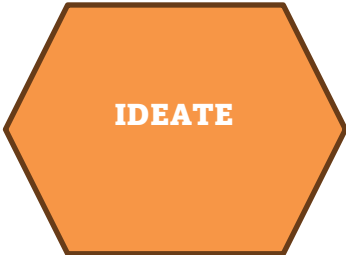
What problem do we see most often?

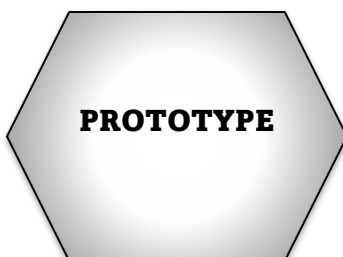
Which one should we solve first?

What makes a good compost bin (ventilation, size, accessibility, and durability)?

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	Find 3 solution categories: • prevention (reduce waste) • reuse (donation, redistribution) • recycling (composting)
 IDEATE	Teacher Role: Encourages brainstorming without judgment and supports solution clustering. Student Role: Generate composting, reuse, redistribution, and waste-reduction ideas, then prioritise the most promising option. Tools/Materials: Mind maps, sticky notes, Miro/Canva/MindMeister Digital tools (Mentimeter, MindMeister, Tinkercad) are used to support visual thinking, collaboration, and design development. Expected Output: Idea board with shortlisted solution categories and success criteria. Now that we understand the problem, we can start generating solutions. Research & brainstorming • materials research: a list of common materials they can consider for building the compost bin (e.g., recycled plastic, wood, bamboo, metal, cardboard, biodegradable fabrics, or other upcycled materials). Consider factors like durability, eco-friendliness, availability, and cost when choosing materials. Try to use 70% recycled materials. • key aspects that should be taken into account while designing: ○ Size (How much food waste should it handle?) ○ Ventilation (How can we ensure airflow for composting?) ○ Durability (What materials will stand the test of time in outdoor conditions?) ○ Accessibility (How can we make it easy to use? Is it portable or stationary?) ○ Sustainability (What makes the compost bin eco-friendly? Can it be made from recycled or upcycled materials?)



Teacher Role: Supports teams as they turn ideas into tangible designs and checks the use of sustainability criteria.

Student Role: Build a model, sketch, poster, or Tinkercad version of a compost bin using recycled or low-impact materials.

Tools/Materials: Cardboard, paper, scissors, glue, markers, Tinkercad, and a recycled materials list.

Expected Output: Compost bin prototype that uses at least 2 circular strategies and is suitable for school or home use.

Let's turn our ideas into real designs!

○ Students can create a model or a detailed drawing of their compost bin, considering:

- The compost bin's structure (open or closed design)
- Placement for aeration (holes, slats, vents)
- Compartments for different types of waste (organic, dry materials)
- Lids or covers for easy access and odor control
- How it will be emptied, and whether it has a turning mechanism or is a simple bin.

How will your compost bin actually work?

What makes it sustainable?

Students can also create a digital prototype using tools like Tinkercad for a 3D model.

They must take into account the success criteria:

- uses at least 2 circular strategies (5Rs)
- addresses a real food waste problem
- is feasible in a school or home context
- is clearly explained and justified

Students use tools safely and select materials responsibly, minimizing waste during prototyping.

Each group assigns roles: designer, presenter, researcher, and materials manager.

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	Teacher Role: Organises peer review and prompts revisions using the rubric. Student Role: Present prototypes, receive feedback on creativity, feasibility, sustainability, and teamwork, then improve the design. Tools/Materials: Peer feedback forms, rubric, Google Forms or Padlet, presentation notes. Expected Output: Improved prototype with at least one documented change and a brief justification. Students present their prototype to another group for peer review. Using the assessment criteria of creativity, feasibility, sustainability, and teamwork, peers give feedback and suggest improvements. Based on this feedback, each group reflects on its design and identifies at least one change that would make the compost bin more practical, sustainable, or suitable for real-life implementation in the school or community.
Assessment & Reflection	Teacher rubric/checklist: creativity, feasibility, sustainability, teamwork. Peer feedback: structured comments during Test & Iterate and presentations. Student self-reflection: exit ticket - One way I can reduce food waste - plus reflection on challenges and improvements. Group presentation: Each group presents its compost bin prototype to the class. They should explain: ○ The materials used and why they chose them ○ The features of their design and how they contribute to sustainability and practicality ○ How their compost bin will work in the real world (Is it suitable for a school, home, or community garden?) ○ Any innovative features that stand out in their design (e.g., compost bin that can be easily moved, eco-friendly materials, or composting speed improvements).

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	Peer and Teacher Feedback: After each presentation, the class provides feedback on: ○ The sustainability of the materials used. ○ The creativity of the design. ○ The feasibility of the compost bin for actual use. ○ Suggestions for improving the design. REFLECTION & DISCUSSION After the presentations, ask students to reflect on the following questions: ○ Which compost bin design was the most innovative and sustainable? ○ What challenges did they face while designing their compost bin, and how did they overcome them? ○ How can the designs be improved or implemented in real life (school, home, community)? ○ Would this work in our school? Class feedback: ○ The teacher and students discuss how each group could improve or adapt their design. Highlight aspects such as material selection, sustainability, and ease of use. ○ The most feasible solution can be proposed for implementation in the school (eco-club / garden project). Exit ticket: “One way I can reduce food waste.”
Inclusion Strategies (UDL)	SEN/ELL learners are supported through visuals, model examples, guided questions, and peer collaboration.

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	Adaptations: vocabulary support, flexible product formats (model, drawing, poster, digital prototype, oral explanation), clear group roles, and scaffolded mind/problem maps.
Real-World Connection / Impact	Audience: classmates, teacher, eco-club, school garden team, and potentially parents or the wider school community. Impact: the most feasible compost bin design can be proposed for implementation in the school garden or eco-project to reduce food waste and model sustainable habits.

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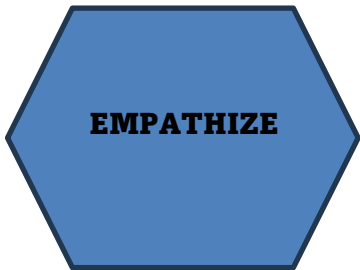
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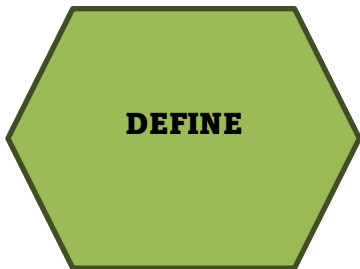
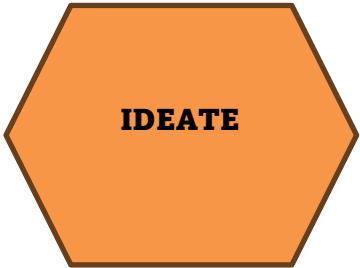
GREEN LOOP LESSON PLAN

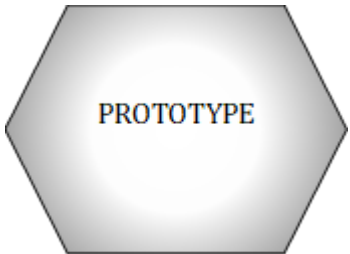
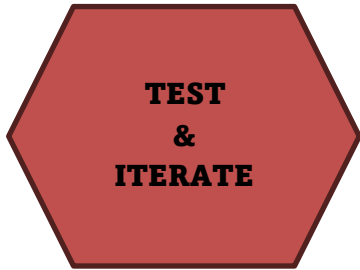
Lesson Title	Our ECO School
Curriculum Link / Subject	Environmental Education / Civic Education / Counseling and Personal Development
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☒ Recycle
Teacher	Bitá Nicoleta
Grade Level	Grades 7–8
Time/Duration	90 minutes
Objectives	Academic/subject /thinking skills objectives • Developing critical and creative thinking; • Developing collaboration skills for sustainable plans.
	Sustainability/Circular Objectives • Fostering environmentally responsible behaviors; • Developing students' environmental awareness through an understanding of the Green Loop concept; • Identifying concrete solutions for transforming the school into an eco-friendly space based on recycling, reuse, and the use of alternative energy sources.
Systems Thinking Elements	What affects what? Purchasing → Consumer Behavior → Amount of Waste → Resource Management → School Costs Where does waste or impact leak? Waste of consumables → Poor waste management → Energy and water efficiency

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	What small intervention could make a big difference? Reducing purchases and fostering a sense of direct responsibility changes collective behavior more effectively than any written regulation.
	Teacher-led introduction (5 min) • https://www.youtube.com/watch?v=xpAnLXc_bIU • Watching the film <i>Tools:</i> Smartboard, laptop, projector, video <i>Method:</i> Audiovisual method, followed by a heuristic discussion Individual work (5 min) Digital Activity – Mentimeter – Prompt: “What does an eco-school mean to you?” -Students respond via their phone or tablet -A “word cloud” is generated <i>Tools:</i> Tablets/phones, laptop, digital tools; <i>Method:</i> Interactive online survey (Mentimeter) Whole-class discussion (5 min) • Guided discussion: Analyzing the terms in Mentimeter—Which words appear most often? • Question: Why is it important to think about the environment right here in school? <i>Method:</i> Heuristic conversation, formative assessment

	https://www.youtube.com/watch?v=9jI27zb35_A Video Presentation (5 min) Explanation of the Green Loop concept and upcycling concept (5 min) Through discussion and examples, the difference between: linear consumption: use – throw away circular consumption: use – recycle – reuse <i>Tools:</i> Smartboard, laptop, projector, video <i>Method:</i> Audiovisual method, followed by a heuristic discussion <i>Expected outcome:</i> Understanding of the concept of upcycling
	Working in pairs (5 min) Students identify waste in the school <i>Tools:</i> Sticky notes <i>Method:</i> Cooperative learning Class discussions (10 min) The ideas gathered from the students are written on a poster, then grouped according to the material from which they are made <i>Tools:</i> Notebook, Posters, Markers <i>Method:</i> Heuristic conversation Quick break (5 min) Energizing exercise: “The Moving Mirror” – in pairs

	Teamwork (10 min) The students are divided into four groups, each with a specific theme: • Eco-friendly classroom • Eco-friendly recreation areas / schoolyard • Eco-friendly cafeteria • Eco-friendly activities for students –Evaluation and Reflection (15 min) The teacher guides the students by asking questions: What recycled products can be used? What objects can be made from recycled materials? What eco-friendly solutions do they suggest? <i>Tools:</i> Posters, markers <i>Method:</i> Structured collaborative learning Each group presents their ideas on a poster Students explain whether they encountered any difficulties in creating these posters <i>Tools:</i> Posters, markers; <i>Method:</i> Lecture, guided discussion, self-assessment
	Feedback (15 min) The “Gallery Walk” method is used: - The posters are displayed, - Students walk around, examine them, and leave comments or stickers. Assessment using the "Traffic Light" method 🚦 Colors: ● green – clear and feasible idea; ● yellow – good idea, but needs some tweaking ● red – unclear idea / difficult to implement

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	<i>Tools:</i> Posters, markers, colored sticky notes <i>Method:</i> Peer assessment <i>Expected outcome:</i> -understanding the relationship between resources, production, consumption, and waste -the ability to provide real-life examples -clarifying misconceptions Summary and evaluation (5 min) Kahoot—to assess understanding of the Green Loop concept\ The teacher emphasizes the key idea: “The Green Loop is not just a concept, but a way of life. The school starts with us.” <i>Tools:</i> Tablets/phones, laptop, digital tools <i>Method:</i> Interactive online quiz (Kahoot) <i>Expected outcome:</i> Correct identification of key concepts (e.g., linear vs. circular economy)
Assessment & Reflection	Formative: The teacher observes pair and group work; The teacher actively participates in the “Gallery Walk” and “Traffic Light” methods; The teacher evaluates students’ work, their level of engagement, and how they present their ideas Peer evaluation The feasibility of the ideas proposed by the students is discussed Reflection question: “Which idea could be put into practice as early as this month?” <i>Assignment:</i> Create a poster on the theme “My Eco-School”:

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Inclusion Strategies (UDL)	1. How can students demonstrate what they know? ✓ Group work: Allows students to choose the format of their final product: a hand-drawn poster, a list of ideas in text form, or even a short presentation video. This flexibility supports both creativity and students' individual strengths. ✓ Individual Reflection: Students can choose to write a short text, record an audio message, or draw an emoji ✓ Peer review: the "Gallery Walk" and "Traffic Light" peer assessment methods 2. How can we ensure that students grasp and understand the content? ◦ Introductory videos – Both visual and textual examples are used to help students understand the difference between linear and circular consumption ◦ Subtitles or a written version of any video are provided. ◦ The teacher provides instructions both verbally and in writing on the board or on the worksheet. ◦ <i>Tools:</i> YouTube with subtitles, printed visual materials 3. "How can we help students connect with and engage in the topic?" ▪ Ask students to bring examples of items from school life that could be recycled or reused, thereby increasing the lesson's relevance. ▪ Using Mentimeter and Kahoot! provides a safe space for shy students to respond anonymously, reducing communication barriers. ▪ During group work, the teacher intentionally visits groups that include students with special educational needs, offering simplified guiding questions (e.g., "What is this object made of?" instead of "Analyze the sustainability of the material")
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Real-World Connection / Impact	Who will see or use this project (the class, the school, parents, the community)? The class community: Students present their solutions for the “Eco School” (mini-plans displayed on posters) to their classmates, who provide constructive feedback on the feasibility of the ideas. School-wide visibility (expansion): The “My Eco-School” drawings or posters can be displayed in the school lobby or on the bulletin board as part of an awareness campaign titled “Let’s Transform Our School Together.” The selected ideas (e.g., pallet benches, cardboard collection bins and decorations, mini windmills, and balls made from recycled fabric) can be presented to the Student Council or school administration for actual implementation. Parents and guardians: Students can discuss with their parents the alternative energy or recycling solutions presented in the lesson and work together to create a “family recycling plan.” Making a useful item from recycled materials at home, involving family members in the creative process. The extended school or the local community: Photos of the final projects or the short eco-promotional videos can be posted on the school’s website or Facebook/Instagram page to inspire other schools. What kind of real change could this activity bring about in school or in everyday life? 1. More informed consumption habits: Students begin to distinguish between linear and circular consumption, putting this into practice through recycling during breaks. 2. Improving the school environment: Concrete proposals (e.g., cardboard decorations, sustainable recreational spaces) can help beautify the school at no cost, using resources that would otherwise have been thrown away.
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	3. Empowerment: Students realize that their voices matter and that they can propose solutions to global problems, starting at the local level 4. Cultural shift: The transition from “throwing away” to “transforming” becomes a way of life within the school (“Green Loop is not just a concept, but a way of life”).
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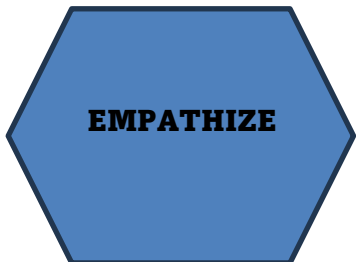
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GREEN LOOP LESSON PLAN

Lesson Title	The Second Life of Paper – From Recycling to Creation
Curriculum Link / Subject	Interdisciplinary: Biology, Chemistry, Art, Geography, Civics, Technology
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☒ Recycle
Teacher	Bitá Nicoleta
Grade Level	Grades 7 - 8
Time/Duration	90 minutes
Objectives	Academic/subject/thinking skills objectives • Developing research, teamwork, communication, and entrepreneurial skills.
	Sustainability/Circular Objectives: • Understanding the principles of the circular economy and the term “upcycling.” • Promoting sustainability and environmental responsibility. • Discovering the environmental impact of paper production and identifying local sources of waste.
Systems Thinking Elements	• <i>What affects what?</i> Natural resources (wood/water) → Paper production → Consumption in schools/offices → Waste generation → Climate impact. • <i>Where do the losses occur?</i> Poor management of paper and cardboard waste in the local community.

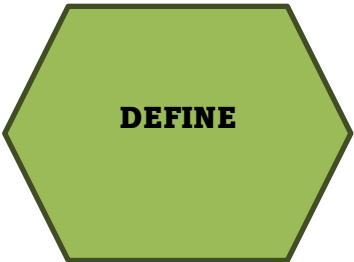
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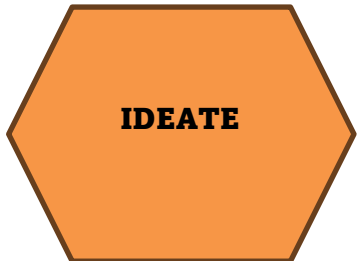
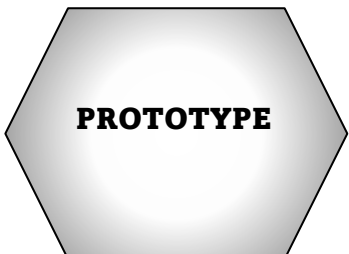
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	• <i>Where do the losses occur?</i> Poor management of paper and cardboard waste in the local community. • <i>A small effort with a big impact:</i> Turning waste into art for a charity fair.
	Teacher-led (5 min) Watching the video about global warming. https://www.youtube.com/watch?v=Vztjbm6HA58 A discussion on the importance of protecting the environment through responsible consumption. • Tools: YouTube video, projector/interactive whiteboard. • Method: Visual trigger + teacher framing. Individual (2 min) The teacher shows the following image, asks the students if they have seen it before, and what it means  An analysis of the recycling symbol and its impact on the planet. Pair work (3 min) After the discussion, the students fill in the table:

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	Reduce	Reuse	Recycle
	- It involves responsible and moderate consumption, choosing products with minimal packaging or avoiding the purchase of unnecessary items	- Reuse involves using items and packaging multiple times, replacing single-use items with more durable ones.	- Recycling involves transforming waste into new materials, thereby preventing it from being discarded and helping to conserve natural resources
	Teacher-led framing (5 min) - Students are divided into groups of four. The teacher asks them to research online what the term “upcycling” means and to find a definition or an image that explains it. They will submit their answers by contributing to the Padlet. https://padlet.com/nbita67/subiectul-de-discu-ie-apare-aici-v3i3619w4wro6psl Tools: Tablets, cell phones Method: Interactive Online Survey (Padlet) The students watch the movie (5 min): https://www.youtube.com/watch?v=9jI27zb35_A Tools: YouTube video, projector/interactive whiteboard. Method: Visual trigger + teacher framing. Pair work (3min) Students work in pairs and answer the question, “What is the most common type of waste produced at school?” The answers are written on sticky notes, which will be attached to an A3 poster. Tools: stickers, poster Method: Cooperative learning		

 IDEATE	The students, divided into four groups, will work on one of the assignments; they will use laptops or phones and look up information online. (7 min) 1. How is paper made? What resources are used in the process? 2. What types of paper and cardboard waste are there? 3. Where do we find the most paper waste in the community? 4. What does paper recycling mean? What can be made from it? The students answer the question, and their answer is displayed on an A3 poster. Each group presents their answer to the question; the answer can be a sentence, a drawing, or a short video. (7 min) The students watch the following video (5 min). https://www.youtube.com/watch?v=_IrtjArqTAg ● Tools: YouTube video, projector/interactive whiteboard, A3 poster, school supplies. ● Method: Collaborative learning, lecture-style instruction , Visual trigger + teacher framing. Energizing exercise: “The Reverse Mirror” (3 min)
 PROTOTYPE	The students watch the following video. (5 min) https://www.youtube.com/shorts/chmWlb3XEic Students are divided into groups of four. They are provided with white and colored paper, cardboard, and various stationery items. They will research online, and each group will create decorations for the Christmas Fair. (30min)

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	Tools: YouTube video, projector/interactive whiteboard, school supplies, recycled paper and cardboard Method: Visual trigger + teacher framing, teamwork, hands-on activities.
	Feedback (8 min) Each group displays the products they have created and presents the materials used and the production process. Classmates provide feedback on the products based on creativity and the reuse of materials. Summary and evaluation (2 min) Students answer 3 questions on an assessment sheet: 1. What materials did you use to make your object?(Circle or check all that apply) • Newsprint • Cardboard • Corrugated cardboard • Recycled colored paper • Others: _____ 2. Why do you think it's important to recycle paper and cardboard? Open-ended response: _____ 3. What did you learn from this activity? • How to Recycle Paper • That I can be creative even with old things • Recycling Information • How to Work in a Team • Something else: _____ Tools: School supplies, paper Method: Peer review, questionnaire

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Assessment & Reflection	• Formative: The teacher observes the students working in pairs and in groups . The teacher appreciates the students' work, their level of engagement, and the quality of their projects. • Peer evaluation The feasibility of the ideas proposed by the students is being discussed . • Topic: Designing a poster to promote the Christmas Fair.
Inclusion Strategies (UDL)	1 . Task allocation Not all students need to create the same complex object. Tasks of low difficulty: Students with fine motor skill difficulties can help tear paper by hand or paint large surfaces. Intermediate tasks: Cutting along outlines, assembling simple geometric shapes. Advanced tasks: Creating complex origami models or coordinating the final design of the object. 2. Cooperative learning Heterogeneous groups: Teams are formed in which students with special educational needs (SEN) work alongside peers who have well-developed practical skills. Complementary roles: Instead of working individually, students are assigned roles in the “recycling workshop” (e.g., one measures, one cuts, one glues, one decorates). This reduces the pressure of having to complete a project from start to finish on their own. 3. Adaptation of materials and the environment Visual aid: The steps are illustrated with clear icons or photos, not just verbal instructions. This helps students with auditory processing difficulties or those who lose focus easily.

	Customized tools: It provides spring-loaded scissors (that open on their own), thick-handled brushes, or pre-cut stencils to help ensure immediate success. 4. Strategies for Emotional Engagement Focus on the process, not just the product: the assessment values recycling efforts and collaboration. Contribution to the Christmas Fair: It is explained that every object, no matter how simple, is part of a shared cause. This sense of belonging to a noble cause (raising funds or helping the community) boosts self-esteem.
Real-World Connection / Impact	1. Environmental Awareness (Upcycling) This activity isn't just "craftwork"; it's a lesson in the circular economy. Impact: Students understand that resources are limited and that waste can be transformed into resources through creativity. Students make the transition from the abstract concept of environmental protection to the concrete action of upcycling. They observe how raw materials (paper that was about to be thrown away) gain new aesthetic and economic value, reducing the school community's carbon footprint. 2. Entrepreneurship and Financial Literacy The Christmas market is the perfect setting for a real-world business simulation. Impact: Students take on the roles of producer, promoter, and salesperson. The activity simulates a real-world economic environment, where students learn to estimate the value of their work, set fair prices, and present their products in a way that appeals to fairgoers. This helps develop communication and negotiation skills. 3. Social Responsibility and Civic Engagement If the proceeds from the fair are donated, the impact is primarily moral and empathetic. The Impact: Students see how their skills can contribute to the common good.

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	The project has a strong impact on the community, fostering a spirit of solidarity. The results of their work support a social cause (e.g., helping a family in need or a senior center), giving students a sense of belonging and the satisfaction of being agents of change in their community.
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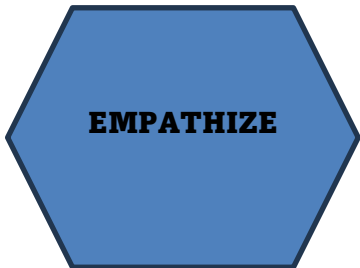
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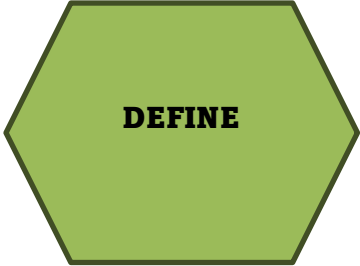
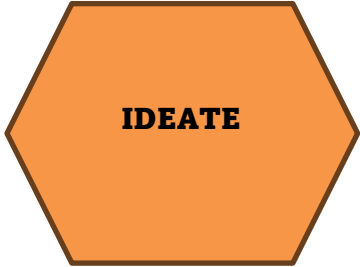
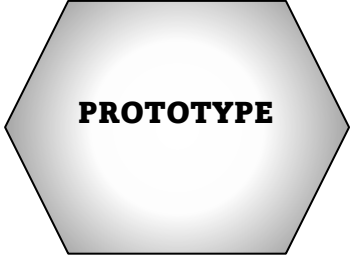
GREEN LOOP LESSON PLAN TEMPLATE

Lesson Title	Rescue & Reimagine, The Upcycling Showdown
Curriculum Link / Subject	Science, Civic Education, Technology, Environmental Education
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☒ Recycle
Teacher	Goicovici Mironela Fabiola
Grade Level	7th
Time/Duration	90 minutes
Objectives	Academic/thinking skills objectives Students will - Analyze how waste is produced and managed - Understand the difference between linear and circular systems - Apply creative thinking to design sustainable solutions - Collaborate effectively in teams - Communicate ideas clearly through presentations
	Sustainability/Circular Objectives - Recognize waste as a potential resource - Understand upcycling as part of the circular economy - Design solutions that reduce environmental impact - Reflect on personal consumption habits

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Systems Thinking Elements	• What affects what? Consumption habits → waste generation Product design → environmental impact Human choices → sustainability outcomes • Where does waste or impact leak? Single-use materials Throw-away culture Lack of reuse systems • Practically, what can we do to produce less waste and to create something useful? Reusing materials Creative redesign (upcycling) Conscious consumption
	• <i>Teacher Role:</i> Introduces the topic through a quiz and discussion Activates prior knowledge Creates emotional engagement • <i>Student Role:</i> Reflect on waste and consumption Respond to quiz Share ideas • <i>Tools/Materials:</i> Mentimeter • <i>Expected Output:</i> Awareness of environmental issues Initial understanding of circular thinking

	• <i>Teacher Role:</i> Clarifies concepts (recycle vs upcycle) Focuses students on the problem • <i>Student Role:</i> Students synthesise findings and agree on one key challenge. • <i>Tools/Materials:</i> Whiteboard, Google Docs, sticky notes. • <i>Expected Output:</i> Clear understanding of the challenge
	• <i>Teacher Role:</i> Encourages multiple ideas Supports creative thinking • <i>Student Role:</i> Generate and select ideas • <i>Tools/Materials:</i> notes, Canva, etc • <i>Expected Output:</i> One selected idea per group
	• <i>Teacher Role:</i> Facilitate, provides formative feedback and ensures participation • <i>Student Role:</i> Students create models,/posters • <i>Tools/Materials:</i> things usually considered garbage • <i>Expected Output:</i> Functional or creative prototype

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 TEST & ITERATE	• <i>Teacher Role:</i> Teacher organises peer feedback sessions and encourages revisions. • <i>Student Role:</i> Students present their solution, receive feedback, and refine their design. • <i>Tools/Materials:</i> Peer feedback forms, Google Forms, Flip, Padlet. • <i>Expected Output:</i> Improved prototype with documented changes
Assessment & Reflection	Formative • questioning • observation • teacher feedback during work Peer Assessment • feedback during presentations Summative • final product • presentation quality

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Inclusion Strategies (UDL)	SEN/ELL learners will be the ones challenged to start the teams, if pressure allows it for them. Usually, they are the last to be chosen, but this way, they will understand they are valued, having the chance to choose first, just like in making a football team. These students will benefit from visual helpers, translation where needed and peer support. They will be encouraged to assume various roles: planner, builder, presenter, etc, according to the role that suits them. • Multiple entry points (quiz, making, presenting) • Group collaboration • Visual and verbal support • Choice of ideas • Structured prompts
Real-World Connection / Impact	Students will think twice before discarding waste. They will • design real solutions • understand consumption • connect learning to daily life Having a fun memory of upcycling will make them wish to repeat the experience.