



Funded by
the European Union

GREEN LOOP

Lesson Plans

Estonia

CONTENT

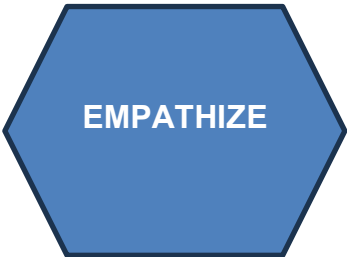
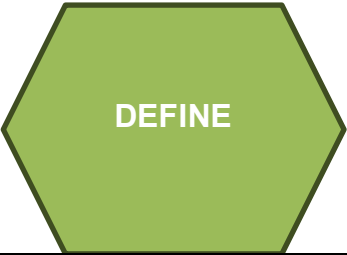
Food Without Waste – Turning Surplus into Solutions	3
Wear It Longer – Repairing and Reimagining Clothes	9
Fix Before You Bin – The Circular Life of Electronics	15
Share More, Own Less – Designing a School Library of Things	21
Packaging-Free Break – Redesigning the School Snack System	27
Furniture with a Future – Repairing and Reusing School Furniture	33
Celebrate in a Circle – Designing a Zero-Waste School Event	41
Every Drop Counts – Designing a Circular School Water System	49
Paper Has More Than One Story – Closing the School Paper Loop	57

GREEN LOOP LESSON PLAN

Lesson Title	Food Without Waste – Turning Surplus into Solutions
Curriculum Link / Subject	Home Economics / Biology / Mathematics / Entrepreneurship
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☐ Repair ☒ Recycle
Teacher	Helen Paju, Dairi Pärn
Grade Level	Lower Secondary (Grades 7-9)
Time/Duration	90 minutes
Objectives	Academic/subject /thinking skills objectives Identify where and why food is wasted in a school or household system. Interpret simple food-waste data and distinguish avoidable from unavoidable waste. Collaborate to design a practical food-waste prevention solution.
	Sustainability/Circular Objectives Apply the circular hierarchy: prevent first, redistribute second, compost last. Understand that food, water, energy and labour are embedded in every meal. Encourage responsible planning, storage and portion choices.
Systems Thinking Elements	• What affects what? Purchasing and portion choices → leftovers → disposal costs and emissions. • Where does waste or impact leak? Overbuying, unclear date labels, poor storage and oversized portions. • What small intervention could make a big difference? A share table, smarter portions or a “use-first” shelf.

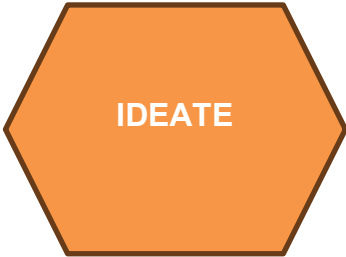
PROJECT N° 2024-2-SK01-KA210-SCH-000278989

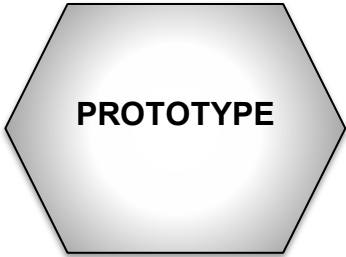
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

 EMPATHIZE	Teacher-led (5 min) Show two contrasting lunch trays: one eaten, one with leftovers. Introduce the question: “When does food become waste?” Tools: photos or real trays, projector. Method: visual trigger. Individual (5 min) Students record one example of food they have recently seen thrown away and a possible reason. Tools: sticky notes / Mentimeter. Method: silent think time. Pair work (5 min) Pairs compare examples and sort causes into buying, cooking, serving, storage or eating habits. Tools: category cards. Method: Think-Pair-Sort. Whole-class discussion (5 min) Create a class “food-waste pathway” from purchase to bin and highlight recurring causes. Output: shared map of where food is lost. (teacher framing) → (individual) → (pair work) → (class discussion)
 DEFINE	Teacher-led framing (5 min) Explain the food-use hierarchy: prevent → share/redistribute → use as animal feed where appropriate → compost. Recycling nutrients is useful, but prevention keeps the most value. Tools: hierarchy diagram. Group analysis (3–4 students) (10 min)

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	Groups analyse a school-lunch scenario or one day of sample food-waste data. They answer: What food was wasted? How much? Why? Who can influence it? What resources were also wasted? Method: "Waste detective" worksheet. Tools: scales/data cards, calculator, worksheet. Whole-class sharing (5 min) Each group states one root cause, not only the visible symptom. Teacher clusters causes as information, infrastructure, habits or planning. Output: one clear "How might we...?" problem statement per group. (teacher framing) → (group analysis) → (sharing)
	Divergent brainstorming (5 min) Generate many prevention ideas: smaller first portions, share table, pre-ordering, clearer labels, leftover recipes, use-first fridge zone. One idea per note. Teacher prompt: "How could we stop the waste before it exists?" Sharing and clustering (5 min) Cluster ideas into prevention, redistribution and nutrient-return solutions. Tools: A3 sheet / Miro. Prioritising top idea (5 min) Use dot voting and an impact-effort check. Select one idea that is both useful and testable at school. Ask: "Who must change what for this to work?" Whole-class check-in (5 min) Give a 30-second pitch: problem, user, intervention and expected reduction.

	Expected output: one selected intervention per group. (brainstorm and cluster) → (prioritise) → (share)
 PROTOTYPE	Group prototyping (10 min) Create a prototype: share-table sign and rules, portion-choice menu, “use-first” label set, campaign poster, or simple tracking sheet/dashboard. Tools: paper, markers, recycled card / Canva, Google Sheets. Group refinement (5 min) Add user instructions, responsible person, materials needed and one measurable success indicator. Guiding: “How will you know less food was wasted?” Teacher walk-around & nudging (3 min) Ask: “Could your solution accidentally create another problem?” “Is food safety considered?” “Can all students use it?” Method: rapid coaching. Individual reflection note (2 min) Complete: “Our strongest prevention step is...” and “One risk we still need to solve is...” Expected output: labelled prototype and reflection. (prototype and refine) → (teacher nudging) → (reflection)

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	Peer feedback carousel (5 min) Groups present to a partner group. Feedback uses 2 strengths + 1 question, focusing on safety, fairness, ease of use and likely waste reduction. Tools: feedback slips / Google Form. Group refinement (5 min) Make at least one visible improvement and write: "The biggest improvement we made was..." Expected output: improved, school-ready mini-intervention. (peer feedback) → (group refinement)
Assessment & Reflection	Exit ticket: • "One thing I learned about the hidden resources in food is..." • "One action that prevents food waste before recycling is..."
Inclusion Strategies (UDL)	How will SEN/ELL learners be supported? • Clear instructions. Give directions orally and in writing, one step at a time. • Language scaffolds. Display key vocabulary, icons and sentence starters. • Flexible output. Students may draw, label, role-play or write short phrases. • Check-ins. Teacher visits groups intentionally and uses simplified guiding questions. What adaptations (visuals, scaffolds, group roles, language supports) will be offered? Visuals • Photos, real objects, process diagrams and colour-coded cards. Scaffolds • A structured analysis worksheet, example response and checklist. Group roles • Facilitator, recorder, materials manager, timekeeper and presenter.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	Language supports • Sentence starters such as “The main problem is...” and “Our solution keeps value because...”. • Translation apps, bilingual dictionaries and peer support may be used.
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? The prototypes can be shared with the school canteen, student council and families. One selected idea can be piloted for a week, with students measuring leftovers before and after. The activity can lead to smaller first portions, clearer storage practices, a safe share table or regular food-waste audits. At home, students can use shopping lists, understand date labels, freeze food and plan meals around ingredients that need to be used first.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

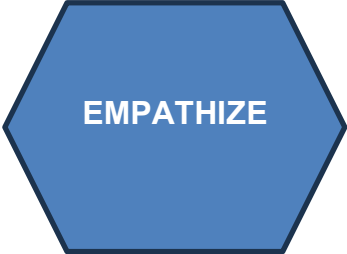
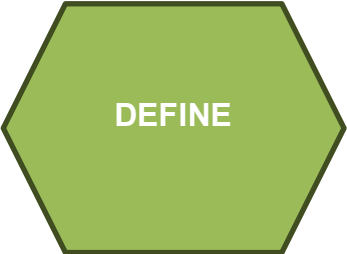
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

GREEN LOOP LESSON PLAN

Lesson Title	Wear It Longer – Repairing and Reimagining Clothes
Curriculum Link / Subject	Textiles / Art / Environmental Studies / Social Studies
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☒ Recycle
Teacher	Helen Paju, Dairi Pärn
Grade Level	Lower Secondary (Grades 7-9)
Time/Duration	90 minutes
Objectives	Academic/subject /thinking skills objectives Explain key stages in the life cycle of a garment. Evaluate why clothing is discarded and identify repair or reuse options. Design and communicate a practical garment-life extension solution.
	Sustainability/Circular Objectives Understand why keeping clothes in use preserves materials, energy and labour. Practise repair, redesign and responsible consumption before textile recycling. Reflect on the social and environmental impacts of fast fashion.
Systems Thinking Elements	• What affects what? Trends and low prices → frequent buying → short use → textile waste. • Where does waste or impact leak? Poor quality, weak repair skills, impulse buying and limited collection systems. • What small intervention could make a big difference? A repair station, clothing swap or visible mending guide.

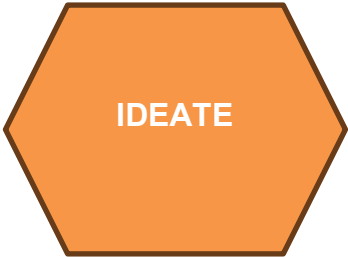
PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	Teacher-led (5 min) Show a damaged but repairable garment and a fast-fashion advertisement. Ask: “Why do we stop wearing clothes?” Tools: garment, images, projector. Individual (5 min) Students choose one unworn item from memory and record why it is no longer used. Tools: sticky note / Padlet. Pair work (5 min) Pairs compare reasons and distinguish functional, emotional, social and size-related causes. Method: Think-Pair-Classify. Whole-class discussion (5 min) Build a class map of reasons for discarding clothes and identify which causes are preventable. Output: user needs for the DEFINE phase. (teacher framing) → (individual) → (pair work) → (class discussion)
	Teacher-led framing (5 min) Introduce the garment life cycle and the value-retention order: buy less, use longer, care, repair, share, redesign, then recycle. Tools: garment lifecycle diagram. Group analysis (3–4 students) (10 min) Each group performs a “Garment Autopsy”: material label, construction, damage, use history, repairability and possible next users. Prompts: What failed? Is repair possible? What skill or part is missing?

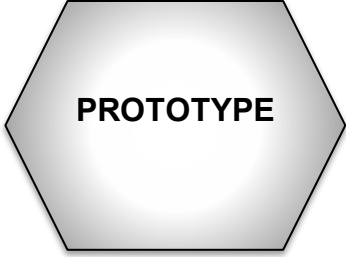
PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	Whole-class sharing (5 min) Groups share one repeated barrier. Teacher clusters barriers as skill, cost, access, design or attitude. Output: “How might we help students keep clothes in use longer?” (teacher framing) → (group analysis) → (sharing)
 IDEATE	Divergent brainstorming (5 min) Ideas may include visible mending kits, QR repair tutorials, swap events, redesign patches, uniform exchange or care-label guides. Rule: quantity before judgement. Sharing and clustering (5 min) Cluster ideas into care, repair, sharing and redesign. Tools: sticky notes / Miro. Prioritising top idea (5 min) Dot vote using impact, inclusiveness and feasibility. Ask: “Does this extend use or merely move waste elsewhere?” Whole-class check-in (5 min) 30-second pitch of the selected service, product or campaign. Expected output: one strong idea per group. (brainstorm and cluster) → (prioritise) → (share)

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

 PROTOTYPE	Group prototyping (10 min) Create a repair instruction card, mending sample, clothing-swap system map, redesigned garment sketch or repair-station layout. Tools: fabric scraps, thread, needles, paper / Canva. Group refinement (5 min) Label materials, user steps, safety points and how the idea keeps garments in use. Keywords: durable, repairable, shareable, adaptable. Teacher walk-around & nudging (3 min) Ask: “Can a beginner use this?” “What if the garment changes owner?” “How will you avoid stigma around repaired clothing?” Method: coaching questions. Individual reflection note (2 min) Complete: “Repair adds value because...” and “One clothing habit I could change is...” Expected output: prototype plus reflection. (prototype and refine) → (teacher nudging) → (reflection)
 TEST & ITERATE	Peer feedback carousel (5 min) Peers assess clarity, attractiveness, practicality and real garment-life extension. Give 2 stars + 1 wish. Tools: feedback cards. Group refinement (5 min) Revise one instruction, feature or inclusion element. Expected output: improved prototype and one stated next step.

	(peer feedback) → (group refinement)
Assessment & Reflection	Exit ticket: “One thing I learned about the life cycle of clothing is...” “Before buying or discarding a garment, I will...”
Inclusion Strategies (UDL)	How will SEN/ELL learners be supported? - Clear instructions. Give directions orally and in writing, one step at a time. - Language scaffolds. Display key vocabulary, icons and sentence starters. - Flexible output. Students may draw, label, role-play or write short phrases. - Check-ins. Teacher visits groups intentionally and uses simplified guiding questions. What adaptations (visuals, scaffolds, group roles, language supports) will be offered? Visuals - Photos, real objects, process diagrams and colour-coded cards. Scaffolds - A structured analysis worksheet, example response and checklist. Group roles - Facilitator, recorder, materials manager, timekeeper and presenter. Language supports - Sentence starters such as “The main problem is...” and “Our solution keeps value because...”. - Translation apps, bilingual dictionaries and peer support may be used.
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’ prototypes can become a school repair corner, a student-led clothes swap, a visible-mending exhibition or QR-linked repair library. Families and local craftspeople may contribute skills or materials. The activity can normalise repaired and second-hand clothing, reduce

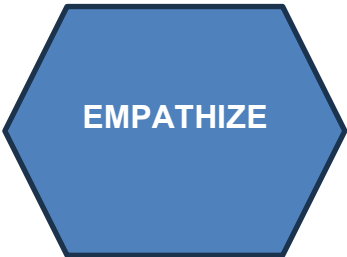
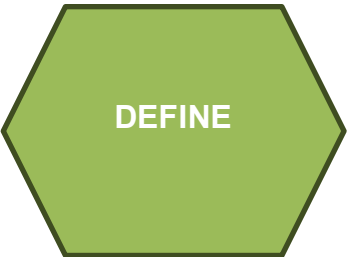
	unnecessary purchases and build practical confidence. A later class audit can compare how many garments were repaired, swapped or redesigned instead of discarded.
--	--

GREEN LOOP LESSON PLAN

Lesson Title	Fix Before You Bin – The Circular Life of Electronics
Curriculum Link / Subject	Technology / Physics / Environmental Studies / Digital Competence
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☒ Recycle
Teacher	Helen Paju, Dairi Pärn
Grade Level	Lower Secondary (Grades 7-9)
Time/Duration	90 minutes
Objectives	Academic/subject /thinking skills objectives Identify materials and components in a common electronic device. Distinguish safe user maintenance from specialist repair. Design a system that extends device life and ensures responsible end-of-life handling.
	Sustainability/Circular Objectives Recognise the environmental and social value embedded in electronics. Prioritise maintenance, repair, reuse and refurbishment before recycling. Promote safe and responsible e-waste collection.
Systems Thinking Elements	• What affects what? Rapid upgrades and hard-to-repair design → shorter device life → more e-waste and material extraction. • Where does waste or impact leak? Glued parts, unavailable spares, weak maintenance and improper disposal. • What small intervention could make a big difference? A repairability guide, device-care clinic or school collection route.

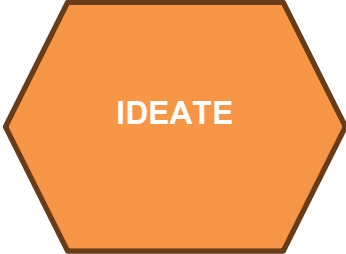
PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	Teacher-led (5 min) Show an old phone, cable or mouse and ask: “Broken, outdated, or simply unwanted?” Emphasise that devices must not be dismantled unless declared safe. Tools: unplugged sample devices, images. Individual (5 min) Students list one unused electronic item at home and why it is unused. Tools: anonymous poll / sticky note. Pair work (5 min) Pairs compare reasons: battery, software, damage, fashion, missing charger or unknown disposal route. Method: Think-Pair-Sort. Whole-class discussion (5 min) Map the journey from raw materials to manufacture, use, repair, reuse and e-waste. Output: common points where value is lost. (teacher framing) → (individual) → (pair work) → (class discussion)
	Teacher-led framing (5 min) Explain maintenance, repair, refurbishment and recycling. Clarify safety: batteries, mains electricity and sealed devices require trained adults or specialists. Tools: circular electronics diagram, safety icons. Group analysis (3–4 students) (10 min) Groups analyse a device card: materials, likely failure, repair barriers, data/privacy needs and safest next pathway.

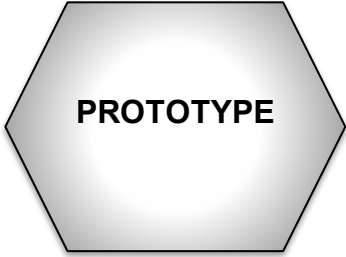
PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	Method: “Device diagnosis” worksheet; no live electrical work. Whole-class sharing (5 min) Share one design or system barrier and one stakeholder who can address it. Output: a focused challenge statement. (teacher framing) → (group analysis) → (sharing)
	Divergent brainstorming (5 min) Ideas: care checklist, charger library, repair booking flow, spare-parts map, refurbished-device exchange, secure data-wipe guide or e-waste collection campaign. Prompt: “How can we preserve the device’s highest value?” Sharing and clustering (5 min) Cluster into maintenance, repair, reuse and safe collection. Tools: notes / Miro.  (5 min) – Prioritising top idea (5 min)Vote using impact, safety, accessibility and feasibility. Ask: “Does the idea delay replacement?” Whole-class check-in (5 min) Give a one-sentence problem and one-sentence solution. Expected output: selected circular electronics intervention. (brainstorm and cluster) → (prioritise) → (share)

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

 PROTOTYPE	Group prototyping (10 min) Create a device-care card, repairability label, school collection map, service storyboard or mock-up of a modular device. Tools: paper, recycled card / Canva, Figma, Tinkercad. Group refinement (5 min) Add safety warnings, user steps, responsible adult/partner and end-of-life route. Guiding: "What happens to personal data?" Teacher walk-around & nudging (3 min) Ask: "Can this be repaired without harming the user?" "Who supplies parts?" "Could the device be shared or refurbished?" Method: safety-focused coaching. Individual reflection note (2 min) Complete: "The most valuable part of a device is not only..." and "A safe next step for unused electronics is..." Expected output: labelled prototype and reflection. (prototype and refine) → (teacher nudging) → (reflection)
 TEST & ITERATE	Peer feedback carousel (5 min) Peer groups review usefulness, safety, data protection and potential to extend device life. Method: 2 strengths + 1 improvement. Group refinement (5 min) Add one visible improvement and state the safe implementation partner. Expected output: refined prototype ready for school discussion.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	(peer feedback) → (group refinement)
Assessment & Reflection	Exit ticket: • “One thing I learned about e-waste and material value is...” • “One way I can extend the life of an electronic device is...”
Inclusion Strategies (UDL)	How will SEN/ELL learners be supported? • Clear instructions. Give directions orally and in writing, one step at a time. • Language scaffolds. Display key vocabulary, icons and sentence starters. • Flexible output. Students may draw, label, role-play or write short phrases. • Check-ins. Teacher visits groups intentionally and uses simplified guiding questions. What adaptations (visuals, scaffolds, group roles, language supports) will be offered? Visuals • Photos, real objects, process diagrams and colour-coded cards. Scaffolds • A structured analysis worksheet, example response and checklist. Group roles • Facilitator, recorder, materials manager, timekeeper and presenter. Language supports • Sentence starters such as “The main problem is...” and “Our solution keeps value because...”. • Translation apps, bilingual dictionaries and peer support may be used.
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? The work can be presented to the school’s ICT manager, families and a certified repair or e-waste partner. A practical result may be a charger-sharing box, device-care week, safe collection point or guide to repair and refurbishment services. Students learn that recycling is the final

	option after maintenance, repair and reuse, and that batteries, data and electrical safety require responsible handling.
--	--

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

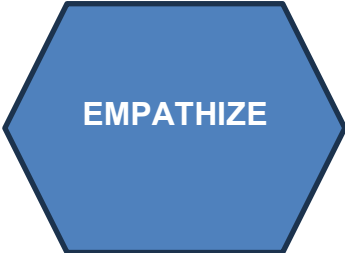
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

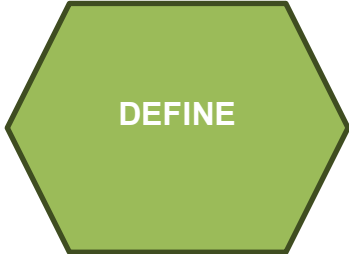
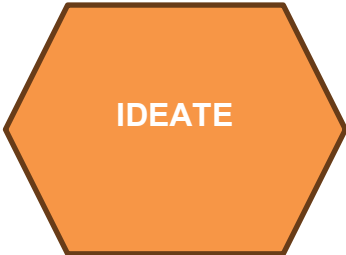
GREEN LOOP LESSON PLAN

Lesson Title	Share More, Own Less – Designing a School Library of Things
Curriculum Link / Subject	Social Studies / Mathematics / Entrepreneurship / Technology
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☐ Recycle
Teacher	Helen Paju, Dairi Pärn
Grade Level	Lower Secondary (Grades 7-9)
Time/Duration	90 minutes
Objectives	Academic/subject /thinking skills objectives Analyse which rarely used products could be shared rather than individually owned. Use simple criteria and data to design a fair borrowing service. Collaborate to prototype a school “Library of Things”.
	Sustainability/Circular Objectives Understand access-based consumption and product-as-a-service models. Reduce duplicate purchases while increasing product utilisation. Plan for care, repair, responsibility and equitable access.
Systems Thinking Elements	• What affects what? Individual ownership → many underused items → high material demand and storage needs. • Where does waste or impact leak? Duplicate buying, idle products, unclear responsibility and poor maintenance.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

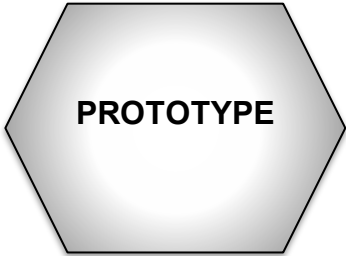
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	What small intervention could make a big difference? A trusted borrowing system with clear care and repair rules.
	Teacher-led (5 min) Display objects used only occasionally: tools, sports equipment, board games, chargers or craft kits. Ask: “Do we need to own everything we use?” Tools: objects or photos. Individual (5 min) Students list three items their household uses less than once a month. Tools: worksheet / digital poll. Pair work (5 min) Pairs identify which items could realistically be borrowed and what concerns users might have. Method: Think-Pair-Question. Whole-class discussion (5 min) Create two columns: benefits of sharing and barriers to sharing. Output: user needs such as trust, access, cleanliness and availability. (teacher framing) → (individual) → (pair work) → (class discussion)

	Teacher-led framing (5 min) Explain utilisation rate, sharing models and product-as-a-service. A circular service must also include maintenance, repair and return systems. Tools: simple ownership vs access diagram. Group analysis (3–4 students) (10 min) Groups select one category and analyse demand, likely users, borrowing frequency, risks, storage, cleaning and repair responsibilities. Tools: service-design worksheet, simple frequency data. Whole-class sharing (5 min) Share the greatest barrier and the stakeholder needed to solve it. Output: “How might we provide fair access to...?” (teacher framing) → (group analysis) → (sharing)
	Divergent brainstorming (5 min) Generate features: booking system, membership card, deposits, QR instructions, repair log, late-return reminders, accessibility rules and donation pathway. Rule: one feature per note. Sharing and clustering (5 min) Cluster into access, trust, maintenance and logistics. Tools: sticky notes / Miro. Prioritising top idea (5 min) Choose the most useful item category and minimum viable service features. Ask: “What is essential for a one-week pilot?”

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	Whole-class check-in (5 min) Pitch the user, item, borrowing process and circular benefit. Expected output: one service concept per group. (brainstorm and cluster) → (prioritise) → (share)
	Group prototyping (10 min) Create a service blueprint, borrowing card, app screen, shelf layout or role-play of the borrowing process. Tools: paper, labels, boxes / Canva, Google Forms. Group refinement (5 min) Add rules for care, damage, repair, inclusion, privacy and item return. Include one measure such as loans per month or avoided purchases. Guiding: “How will this remain fair?” Teacher walk-around & nudging (3 min) Ask: “Who is excluded?” “What happens when an item breaks?” “How do you keep the service simple?” Method: service-design coaching. Individual reflection note (2 min) Complete: “Sharing works when...” and “One item I would borrow rather than buy is...” Expected output: service prototype and reflection. (prototype and refine) → (teacher nudging) → (reflection)

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	Peer feedback carousel (5 min) Peers role-play borrower and manager, then give feedback on clarity, fairness and practicality. Tools: scenario cards. Group refinement (5 min) Fix one weak point in the user journey and add one repair/maintenance feature. Expected output: improved pilot-ready service. (peer feedback) → (group refinement)
Assessment & Reflection	Exit ticket: • “One thing I learned about access instead of ownership is...” • “One condition that makes sharing fair and reliable is...”
Inclusion Strategies (UDL)	How will SEN/ELL learners be supported? • Clear instructions. Give directions orally and in writing, one step at a time. • Language scaffolds. Display key vocabulary, icons and sentence starters. • Flexible output. Students may draw, label, role-play or write short phrases. • Check-ins. Teacher visits groups intentionally and uses simplified guiding questions. What adaptations (visuals, scaffolds, group roles, language supports) will be offered? Visuals • Photos, real objects, process diagrams and colour-coded cards. Scaffolds • A structured analysis worksheet, example response and checklist. Group roles • Facilitator, recorder, materials manager, timekeeper and presenter. Language supports • Sentence starters such as “The main problem is...” and “Our solution keeps value because...”.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	• Translation apps, bilingual dictionaries and peer support may be used.
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? The class can present proposals to the student council, school leadership and parent community. A small pilot might begin with board games, sports equipment, event supplies, calculators or craft tools. Students can track loans, avoided purchases, repairs and user satisfaction. The service may strengthen community trust while reducing duplicate consumption and making useful items accessible to more people.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

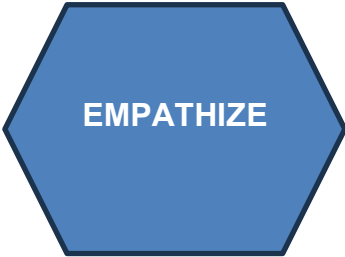
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

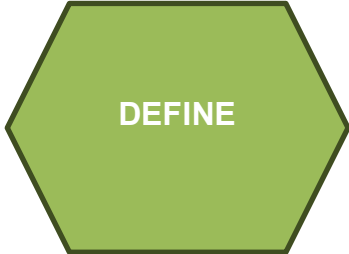
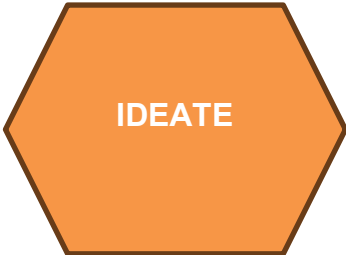
GREEN LOOP LESSON PLAN

Lesson Title	Packaging-Free Break – Redesigning the School Snack System
Curriculum Link / Subject	Health Education / Mathematics / Design & Technology / Entrepreneurship
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☐ Repair ☒ Recycle
Teacher	Helen Paju, Dairi Pärn
Grade Level	Lower Secondary (Grades 7-9)
Time/Duration	90 minutes
Objectives	Academic/subject /thinking skills objectives Audit common snack packaging and classify materials and functions. Compare single-use and reusable packaging systems using evidence. Design a realistic low-waste snack or canteen system.
	Sustainability/Circular Objectives Prioritise refusal and reuse over disposal and recycling. Understand that packaging choices are shaped by hygiene, convenience, price and infrastructure. Promote reusable, refillable and correctly sorted alternatives.
Systems Thinking Elements	• What affects what? Convenience and sales choices → single-use packaging → litter, collection and treatment. • Where does waste or impact leak? Mixed materials, contamination, missing refill options and unclear return systems.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

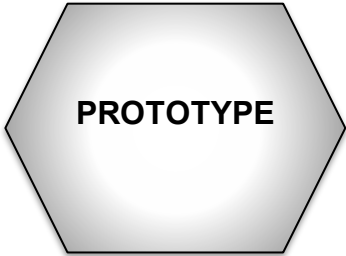
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	What small intervention could make a big difference? A deposit-return cup, unpackaged snack option or reusable container routine.
	Teacher-led (5 min) Show one day's clean snack packaging or a photo audit. Ask: "Which package was useful for minutes but remains waste for much longer?" Tools: clean samples, gloves, projector. Individual (5 min) Students record what packaging they used during the previous school day and why it was chosen. Tools: tally sheet / Mentimeter. Pair work (5 min) Pairs compare packaging functions: protection, hygiene, transport, information and marketing. Method: Think-Pair-Match. Whole-class discussion (5 min) Cluster packaging by material and function; distinguish necessary function from avoidable excess. Output: packaging problem map. (teacher framing) → (individual) → (pair work) → (class discussion)

	Teacher-led framing (5 min) Explain the hierarchy: refuse unnecessary packaging, reduce material, reuse containers, then recycle correctly. Reuse needs washing, return and user participation. Tools: packaging hierarchy diagram. Group analysis (3–4 students) (10 min) Groups analyse one snack product or canteen item: material layers, use time, sorting route, contamination, user needs and alternative delivery systems. Method: “Packaging autopsy” worksheet. Whole-class sharing (5 min) Share one avoidable feature and one legitimate requirement such as food safety. Output: a balanced “How might we reduce packaging while still...?” statement. (teacher framing) → (group analysis) → (sharing)
	Divergent brainstorming (5 min) Ideas: deposit cups, refill dispensers, reusable lunchbox campaign, bulk snack station, return crate, packaging-free day or clearer sorting signs. Prompt: “Can the service change, not only the material?” Sharing and clustering (5 min) Cluster into refusal, reduction, reuse and sorting support. Tools: sticky notes / Miro. Prioritising top idea (5 min) Dot vote using waste prevention, hygiene, cost and ease of adoption. Ask: “What behaviour and infrastructure are both required?”

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	Whole-class check-in (5 min) Give a 30-second system pitch: user, container/package, return or refill step, and benefit. Expected output: one chosen system idea. (brainstorm and cluster) → (prioritise) → (share)
	Group prototyping (10 min) Build a reusable-packaging journey map, deposit token, refill-station mock-up, instruction sign or improved package model. Tools: cleaned packaging, cardboard, markers / Canva. Group refinement (5 min) Add hygiene steps, responsible roles, return points, accessibility and one measurement such as items avoided per week. Guiding: “Where could the reusable item be lost?” Teacher walk-around & nudging (3 min) Ask: “Is the alternative truly reusable?” “Who washes it?” “Will it work at busy break time?” Method: systems coaching. Individual reflection note (2 min) Complete: “The most unnecessary packaging I noticed was...” and “A reuse system succeeds when...” Expected output: labelled prototype and reflection. (prototype and refine) → (teacher nudging) → (reflection)

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	Peer feedback carousel (5 min) Peers test the user journey and assess hygiene, convenience, clarity and likely waste prevention. Method: 2 strengths + 1 improvement. Group refinement (2 min) Revise one system step and add a clear call to action. Expected output: improved low-waste snack-system proposal. (peer feedback) → (group refinement)
Assessment & Reflection	Exit ticket: • “One thing I learned about packaging systems is...” • “One single-use item I could refuse or replace is...”
Inclusion Strategies (UDL)	How will SEN/ELL learners be supported? • Clear instructions. Give directions orally and in writing, one step at a time. • Language scaffolds. Display key vocabulary, icons and sentence starters. • Flexible output. Students may draw, label, role-play or write short phrases. • Check-ins. Teacher visits groups intentionally and uses simplified guiding questions. What adaptations (visuals, scaffolds, group roles, language supports) will be offered? Visuals • Photos, real objects, process diagrams and colour-coded cards. Scaffolds • A structured analysis worksheet, example response and checklist. Group roles • Facilitator, recorder, materials manager, timekeeper and presenter. Language supports • Sentence starters such as “The main problem is...” and “Our solution keeps value because...”.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	• Translation apps, bilingual dictionaries and peer support may be used.
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? Proposals can be shared with the canteen provider, school leadership, student council and families. A class may pilot a packaging-free snack day, reusable cup deposit system or lunchbox challenge and count avoided items. The work can influence purchasing decisions, sorting signage and school-event planning. Students also gain a practical lens for judging packaging by necessity, reusability and the full system around it.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

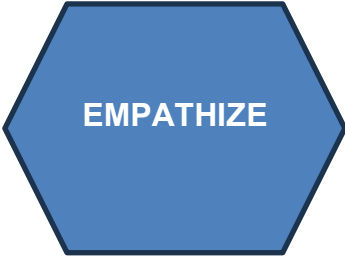
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

GREEN LOOP LESSON PLAN

Lesson Title	Furniture with a Future – Repairing and Reusing School Furniture
Curriculum Link / Subject	Design & Technology / Mathematics / Art / Entrepreneurship
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☒ Recycle
Teacher	Helen Paju, Dairi Pärn
Grade Level	Lower Secondary (Grades 7-9)
Time/Duration	90 minutes
Objectives	Academic/subject /thinking skills objectives Analyse the construction, materials, function, and condition of school furniture. Measure furniture accurately and apply scale, proportion, and basic technical drawing. Develop and communicate a realistic repair or reuse solution collaboratively.
	Sustainability/Circular Objectives Understand why maintenance, repair, refurbishment, and reuse keep products and materials in circulation. Compare repair and replacement using environmental, practical, and financial criteria. Recognise furniture as a system of replaceable parts rather than a disposable object.
Systems Thinking Elements	What affects what? Purchasing choices → furniture durability → maintenance needs → waste and school costs.

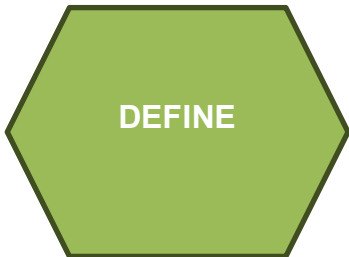
PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	• Where does waste or impact leak? Loose joints are ignored, surfaces are damaged, spare parts are unavailable, and usable furniture is replaced for aesthetic reasons. • What small intervention could make a big difference? A routine condition check, replaceable components, and a school repair-and-reuse protocol.
	Teacher-led (5 min) Show photographs of a new chair, a scratched but usable chair, a loose chair, and a broken chair. Ask: “At what point do we decide that furniture has become waste?” • Tools: Projector, photographs, one real chair or desk if available. • Method: Visual trigger + teacher framing. Individual observation (5 min) Students silently inspect one item of classroom furniture and record evidence under four headings: works well, worn, unsafe, could be improved. • Tools: Observation card, pencil, ruler. • Method: Notice before judging. Pair work (5 min) Pairs compare observations and distinguish cosmetic damage from functional or safety problems. Prompts: “Does this affect appearance, comfort, function, or safety?” “Could one small part solve the problem?” • Method: Think–Pair–Share. Whole-class discussion (5 min) Create a class condition map: maintain / repair / refurbish / repurpose / recycle. • Tools: Board, sticky notes or Padlet. • Output: Shared understanding that different conditions require different circular actions.

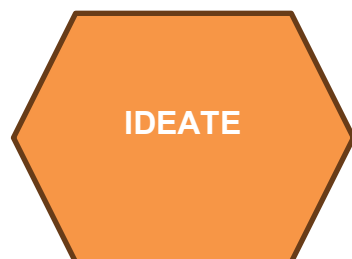
PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	Teacher-led → Individual observation → Pair work → Whole-class discussion
	Teacher-led framing (5 min) Introduce the furniture life cycle: raw materials → manufacturing → transport → school use → maintenance → repair/refurbishment → reuse → material recovery. Explain that extending useful life usually preserves more value than immediately recycling materials. • Tools: Linear and circular furniture-life diagrams. Group “Furniture Health Check” (3–4 students) (10 min) Each group studies one chair, desk, shelf, or storage unit. Student prompts: 1. What materials and separate components can you identify? 2. Which parts carry the greatest load or wear fastest? 3. What is damaged, loose, uncomfortable, or difficult to clean? 4. Can the item be disassembled without destroying it? 5. Which part could be maintained, repaired, replaced, or redesigned? 6. What would happen if the school simply bought a new one? • Tools: Ruler/tape measure, checklist, removable labels, camera. • Method: Product autopsy without destructive disassembly. Whole-class sharing (5 min) Groups name one recurring weakness. The teacher clusters findings: joints, surfaces, ergonomics, missing parts, poor repairability. • Output: One precise design challenge per group, written as: “How might we extend the useful life of this item by...?” Teacher-led framing → Group “Furniture Health Check” → Whole-class sharing

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.



Divergent brainstorming (5 min)

Groups generate as many solutions as possible. Ideas may involve maintenance, repair, interchangeable parts, surface renewal, new use, or a school service system.

Teacher prompts:

- “How could the damaged part be replaced rather than the whole item?”
- “Could this item serve another function?”
- “How would we make the next repair easier?”
- “Could reclaimed materials be used safely?”
- Tools: Sticky notes, A3 sheet, Miro.

Sharing and clustering (5 min)

Sort ideas into: maintain, repair, refurbish, repurpose, system change.

Guiding questions: “Which ideas preserve the most existing value?” “Which prevent the same problem returning?”

Decision matrix (5 min)

Score two or three ideas from 1–3 for safety, waste prevented, cost, feasibility, and durability. Select one concept.

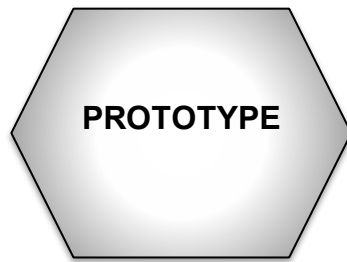
- Tools: Printed matrix or shared spreadsheet.

Whole-class check-in (5 min)

Each group gives a 30-second pitch: item + diagnosed problem + selected circular intervention.

Expected Output: One justified solution ready to prototype.

Divergent brainstorming → Sharing and clustering → Decision matrix → Whole-class check-in



Group prototyping (10 min)

Create one of the following:

- an annotated technical sketch showing repair or replacement parts;
- a scale paper/cardboard model of a new component;
- a before-and-after refurbishment board;
- a service prototype for reporting, storing, and repairing furniture.

The prototype must label materials, dimensions, joining method, and the circular strategy used.

- Tools: A3 paper, rulers, cardboard, reclaimed materials, fasteners, Canva or Tinkercad.
- Safety: Students do not carry out structural repairs or use hazardous tools during this lesson.

Group refinement (5 min)

Add a “next life” statement:

- How long could the intervention extend useful life?
- What can be replaced again later?
- What happens to removed materials?
- Who is responsible for maintenance?

Teacher walk-around and nudging (3 min)

Prompts: “Would this remain safe under repeated use?” “What evidence supports your chosen dimensions?” “Have you designed access for the next repair?”

Individual reflection note (2 min)

“My contribution to the prototype was...”

“Our solution keeps value in circulation because...”

Expected Output: Labelled prototype and individual reflection.

Group prototyping → Group refinement → Teacher walk-around and nudging → Individual reflection note

	Peer feedback carousel (5 min) Groups present their solution. Partners use three checks: 1. Is it safe and functional? 2. Does it extend life or avoid replacement? 3. Is the next repair or reuse step clear? Feedback format: 2 strengths + 1 practical improvement. • Tools: Feedback slips or Google Form. Group refinement (5 min) Groups add at least one visible improvement and complete the statement: “Compared with replacement, our solution preserves...” Teacher guiding: “Which feedback changes function rather than appearance only?” “What would a caretaker, technician, or user need to know?” Expected Output: Improved prototype and a short circular justification. Peer feedback carousel → Group refinement
Assessment & Reflection	Exit ticket: • “One sign that furniture should be repaired rather than replaced is...” • “One school routine that could extend furniture life is...” • Self-assessment: I used evidence / measurements / circular principles (choose two and explain briefly). •
Inclusion Strategies (UDL)	How will SEN/ELL learners be supported? • Clear instructions. Present each phase orally, visually, and in writing. • Concrete objects. Use real furniture and picture cards to make vocabulary visible. • Language scaffolds. Sentence starters: “The problem is located at...”, “This part could be...”, “Our solution extends life by...”

	• Flexible output. Students may demonstrate through a labelled drawing, model, photographs, or short oral explanation. • Check-ins. Teacher confirms that each group distinguishes appearance, function, and safety. What adaptations will be offered? Visuals • Component diagram with words such as leg, joint, fastener, surface, frame, hinge. • Examples of maintain / repair / refurbish / repurpose. Scaffolds • Furniture Health Check with icons and yes/no prompts. • Partly completed decision matrix. Group roles • Inspector, measurer, recorder, designer, presenter. Language supports • Bilingual word bank and translation tools. • Option to rehearse the pitch with a partner before presenting.
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? The prototypes can be presented to the school caretaker, management team, student council, or local craft and repair professionals. Selected proposals may become part of a “Furniture with a Future” exhibition that displays the item’s current condition, proposed intervention, expected life extension, and materials saved. The activity can lead to a practical school furniture register with categories such as monitor, maintain, repair, refurbish, and reuse. Students may develop a simple reporting label or digital form for loose parts and damage, helping the school intervene before small defects become

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	expensive failures. Reusable components and sound furniture could also be stored for future repairs rather than discarded. In daily life, students learn to inspect objects, diagnose problems, and seek repair or second-hand options before purchasing replacements. The central impact is a shift from seeing worn objects as rubbish to seeing them as collections of materials, labour, functions, and future possibilities.
--	---

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

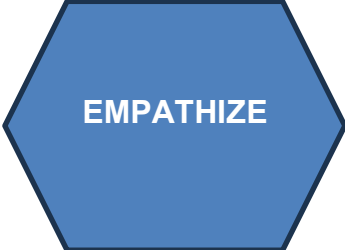
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

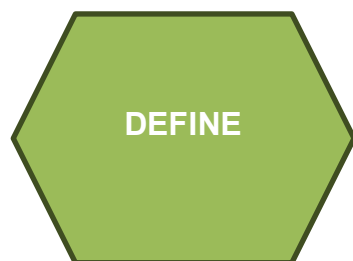
GREEN LOOP LESSON PLAN

Lesson Title	Celebrate in a Circle – Designing a Zero-Waste School Event
Curriculum Link / Subject	Civics / Mathematics / Home Economics / Entrepreneurship / Arts
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☒ Recycle
Teacher	Helen Paju, Dairi Pärn
Grade Level	Lower Secondary (Grades 7-9)
Time/Duration	90 minutes
Objectives	Academic/subject /thinking skills objectives Analyse the material and resource flows of a school celebration or community event. Use estimation, comparison, and prioritisation to create a feasible event plan. Collaborate to communicate roles, rules, and solutions to different stakeholders.
	Sustainability/Circular Objectives Apply the waste hierarchy to catering, decorations, communication, and equipment. Design systems that prevent waste through refusal, reduction, reuse, sharing, and correct material recovery. Understand that a circular event depends on coordinated choices before, during, and after the event.
Systems Thinking Elements	What affects what? Guest numbers and organiser choices → purchasing and service systems → leftover materials and waste quality.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	• Where does waste or impact leak? Over-ordering, single-use serviceware, one-time decorations, unclear sorting, and items with no owner after the event. • What small intervention could make a big difference? Accurate registration, reusable systems, clear responsibilities, and a plan for every material after use.
	Teacher-led (5 min) Display a “celebration table after the guests leave”: disposable cups, balloons, food leftovers, printed programmes, and decorations. Ask: “Which of these became waste because of decisions made before the event?” • Tools: Photo or staged table, projector. • Method: Visual trigger + backward thinking. Individual memory map (5 min) Students recall a school event, birthday, festival, or sports day and list what was bought, used, left over, and thrown away. • Tools: Four-box worksheet or Padlet. Pair comparison (5 min) Pairs identify one avoidable item and one useful practice they observed. Prompts: “What could have been refused?” “What could have been borrowed or reused?” Whole-class material-flow map (5 min) Cluster responses under food, serving items, decorations, communication, equipment, and transport. • Output: Shared map of where waste is created across an event system. Teacher-led → Individual memory map → Pair comparison → Whole-class material-flow map



Teacher-led framing (5 min)

Explain that a zero-waste event is not an event with many recycling bins; it is an event designed so that unnecessary materials do not enter the system and useful items remain in circulation. Introduce the planning sequence: refuse → reduce → borrow/share → reuse → repair → recycle/compost.

- Tools: Event waste hierarchy infographic.

Group event audit (3–4 students) (10 min)

Groups receive a scenario: school anniversary, winter fair, sports day, graduation reception, or international project day.

Student prompts:

1. Who attends and how many people should be planned for?
2. Which needs are essential and which are optional?
3. What materials enter the event?
4. Who owns each item before and after the event?
5. Where might leftovers, contamination, or forgotten items occur?
6. Which decision has the greatest waste impact?

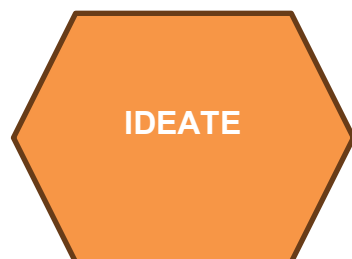
- Tools: Scenario card, flow-map worksheet, calculators.
- Method: Stakeholder and material-flow analysis.

Whole-class sharing (5 min)

Groups share one “leak” in their event system. Teacher clusters leaks as quantity, ownership, single-use design, communication, or end-of-event management.

- Output: A challenge statement: “How might we organise ___ for ___ people while preventing ___?”

Teacher-led framing → Group event audit → Whole-class sharing



Divergent brainstorming (5 min)

Groups generate prevention ideas across five stations: food, tableware, decoration, information, and equipment.

Teacher prompts:

- “Can we remove the need for this item?”
- “Can guests bring, borrow, refill, or return it?”
- “Can one object serve several events?”
- “How will people know what to do?”
- Tools: Station sheets, sticky notes or Miro.

Build a circular bundle (5 min)

Cluster ideas into a coordinated package rather than isolated actions. Example: registration + portion estimate + reusable dishes + return station + leftover redistribution.

Impact/effort prioritisation (5 min)

Place ideas on an impact–effort matrix. Choose at least one prevention action, one reuse/share action, and one end-of-event action.

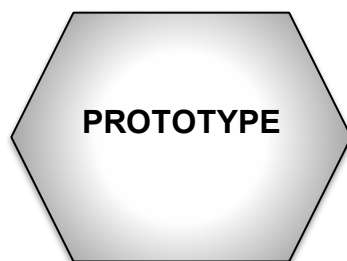
- Tools: A3 matrix, dots or digital board.

Whole-class check-in (5 min)

30-second event pitch: “Our event is circular because before, during, and after the event we will...”

Expected Output: A coherent three-stage event concept.

Divergent brainstorming → Build a circular bundle → Impact/effort prioritisation → Whole-class check-in



Group prototyping (10 min)

Create a one-page “Circular Event Operating Plan” containing:

- estimated guest number and one key quantity calculation;
- material-flow diagram: enters → used → collected → next use;
- reusable/borrowed equipment list;
- signs or instructions for guests;
- named responsibilities before, during, and after the event.

Groups may also prototype a return-station sign, reusable decoration module, digital invitation, or deposit-token system.

- Tools: A3 paper, markers, sample containers, Canva, spreadsheet.

Stress test (5 min)

Apply one surprise card: 20 extra guests, rain, missing dishwasher, dietary change, or a supplier delivering single-use items. Adapt the plan without abandoning its circular goals.

Teacher walk-around and nudging (3 min)

Prompts: “Who is responsible when the event ends?” “What happens if guests ignore the system?” “Does your calculation include a reasonable buffer without encouraging over-ordering?”

Individual reflection note (2 min)

“The event decision with the greatest preventive effect is...”

“One role I could personally take is...”

Expected Output: Tested operating plan and individual reflection.

Group prototyping → Stress test → Teacher walk-around and nudging → Individual reflection note

	Stakeholder feedback carousel (5 min) Groups exchange plans and adopt roles: guest, organiser, cleaner/caretaker, caterer, or finance manager. Each reviewer identifies: • one part that is clear and easy to follow; • one possible failure point; • one improvement for inclusion or feasibility. • Tools: Role cards and feedback sheet / Google Form. Group refinement (5 min) Groups revise one calculation, instruction, responsibility, or material loop. They add a visible “Plan B” and complete: “No item becomes anonymous after the event because...” Expected Output: Improved circular event plan with clear ownership and contingency. Stakeholder feedback carousel → Group refinement
Assessment & Reflection	Exit ticket: • “A zero-waste event begins before the event because...” • “One single-use item I would refuse or replace is...” • “The most important role after the event is... because...”
Inclusion Strategies (UDL)	How will SEN/ELL learners be supported? • Clear sequence. Use icons for before / during / after. • Language scaffolds. Sentence starters: “Guests will...”, “The organiser must...”, “After use, this item goes to...” • Flexible output. Students may use symbols, a flow diagram, short labels, or recorded speech. • Reduced cognitive load. Provide one scenario and a limited set of materials to groups needing additional structure. • Check-ins. Teacher verifies quantities, responsibilities, and the next destination of materials.

	What adaptations will be offered? Visuals • Picture cards for food, dishes, decorations, signs, bins, transport, and storage. • Colour-coded material-flow arrows. Scaffolds • Partly completed operating-plan template and worked quantity example. • Priority cards: essential / useful / unnecessary. Group roles • Event coordinator, resource calculator, systems mapper, communication designer, presenter. Language supports • Bilingual vocabulary list and translation applications. • Option to present jointly or use prepared cue cards.
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? The plans can be presented to the student council, teachers organising school traditions, catering staff, the school management team, parent representatives, or community event organisers. A selected plan could be tested at an actual class evening, project day, fair, sports event, or reception. The activity can produce reusable school resources: an event-equipment inventory, a lending list, standard digital invitations, quantity calculators, reusable signs, a return-station kit, and a short checklist assigning responsibility for leftovers and materials. Measuring the number of disposable items avoided or the quantity of leftovers can make the impact visible.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

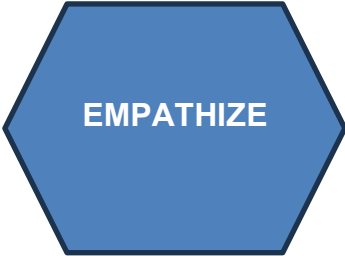
	Students also transfer the approach to birthdays and family gatherings. Instead of treating waste sorting as the main solution, they learn to plan demand, refuse unnecessary items, share equipment, design for repeated use, and ensure that every material has a clear next destination.
--	---

GREEN LOOP LESSON PLAN

Lesson Title	Every Drop Counts – Designing a Circular School Water System
Curriculum Link / Subject	Science / Geography / Mathematics / Design & Technology
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☒ Recycle
Teacher	Helen Paju, Dairi Pärn
Grade Level	Lower Secondary (Grades 7-9)
Time/Duration	90 minutes
Objectives	Academic/subject /thinking skills objectives Analyse where water enters, is used, and leaves a school system. Collect and interpret simple water-use data and identify patterns. Develop and communicate a feasible intervention that reduces water loss.
	Sustainability/Circular Objectives Understand water as a finite resource that can be conserved, reused, and returned safely to natural cycles. Distinguish between necessary water use, avoidable waste, and suitable reuse. Recognise how small changes in behaviour, equipment, and monitoring affect the whole system.
Systems Thinking Elements	What affects what? User behaviour → water demand → energy use for heating and pumping → wastewater → environmental impact.

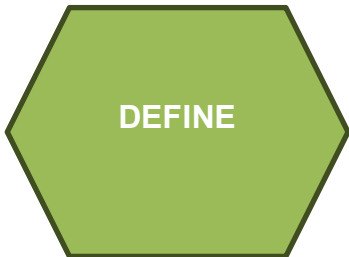
PROJECT N° 2024-2-SK01-KA210-SCH-000278989

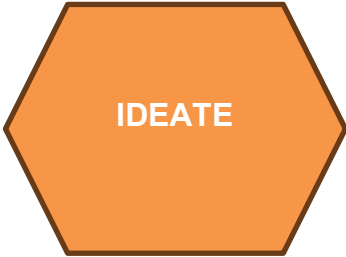
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	• Where does waste or impact leak? Dripping taps, unnecessary flushing, running water, poor monitoring, and clean water used where lower-quality water would be sufficient. • What small intervention could make a big difference? Detecting leaks early, installing clear prompts, and matching water quality to its purpose.
	Teacher-led (5 min) Show two contrasting images: a dripping tap and a closed-loop water system. Ask: “Where does our school’s water come from, and where does it go after we use it?” • Tools: Projector, photographs, short animation or diagram. • Method: Visual trigger + teacher framing. Individual observation (5 min) Students list every way they have used water since arriving at school and mark each use as essential, reducible, or uncertain. • Tools: Observation card or digital form. • Method: Personal water-use snapshot. Pair work (5 min) Pairs compare lists and identify one hidden water use, such as cleaning, heating, food preparation, or toilet flushing. Prompts: “Which use surprised you?” “Where might clean water be used only once?” • Method: Think–Pair–Share. Whole-class discussion (5 min) Build a class water map: source → use → drain → treatment → environment. • Tools: Board, sticky notes or Padlet. • Output: Shared picture of the school as part of a larger water cycle.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

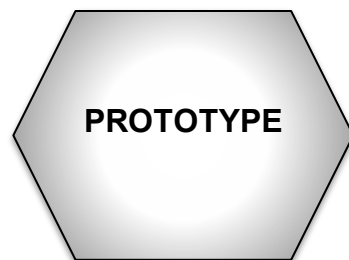
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	Teacher-led → Individual observation → Pair work → Whole-class discussion
	Teacher-led framing (5 min) Explain the difference between the natural water cycle and the human-managed water system. Introduce the hierarchy: avoid unnecessary use → improve efficiency → collect and reuse safely → return water responsibly. • Tools: Water-cycle and school-system diagrams. Group “Water Walk” analysis (3–4 students) (10 min) Groups examine one school water-use point from photographs, a map, or a supervised location: sink, toilet, kitchen, sports area, or garden. Student prompts: 1. What is the water used for? 2. How often and for how long is it used? 3. Where could water be lost or overused? 4. Is drinking-quality water necessary for this purpose? 5. What behaviour, equipment, or information affects use? 6. How could success be measured? • Tools: Checklist, stopwatch, measuring container or estimated flow-rate card, school plan. • Method: System observation without disrupting school activities. Whole-class sharing (5 min) Groups name one repeated problem. The teacher clusters findings: leaks, habits, equipment, information, reuse opportunities. • Output: One challenge statement per group: “How might we reduce water use at... without reducing hygiene or comfort?”

Teacher-led framing → Group “Water Walk” analysis → Whole-class sharing	
	Divergent brainstorming (5 min) Groups generate solutions involving behaviour, equipment, measurement, rainwater, or safe greywater use. Teacher prompts: • “How could users see the amount of water they use?” • “What could stop a small leak becoming a large loss?” • “Where could rainwater replace drinking water?” • “How could the solution work for younger pupils?” • Tools: Sticky notes, A3 sheet, Miro.
	Sharing and clustering (5 min) Sort ideas into: avoid, reduce, monitor, collect, reuse. Guiding questions: “Which idea prevents waste at the source?” “Which requires safety rules or adult approval?”
	Decision matrix (5 min) Score ideas from 1–3 for water saved, hygiene and safety, cost, feasibility, and ease of measurement. Select one concept. • Tools: Printed matrix or spreadsheet.
	Whole-class check-in (5 min) Each group gives a 30-second pitch: location + problem + intervention + indicator of success. Expected Output: One justified water-saving concept ready to prototype.
	Divergent brainstorming → Sharing and clustering → Decision matrix → Whole-class check-in

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.



Group prototyping (10 min)

Create one of the following:

- an annotated redesign of a water-use point;
- a model of a rainwater collection or reuse system;
- a user prompt, flow indicator, or leak-reporting tool;
- a monitoring dashboard showing baseline and target use.

The prototype must show water entering, being used, and leaving or returning to the loop.

- **Tools:** A3 paper, cardboard, reusable materials, markers, Canva or Tinkercad.
- **Safety:** No changes are made to plumbing; any reuse proposal must clearly identify hygiene limits.

Group refinement (5 min)

Add a measurement plan:

- What will be measured?
- When and by whom?
- What result would show improvement?
- What unintended effect must be avoided?

Teacher walk-around and nudging (3 min)

Prompts: “Does the proposal maintain hygiene?” “Where could the system leak?” “Is the saved amount measurable?”

Individual reflection note (2 min)

“One water-use habit I noticed was...”

“Our solution changes the system by...”

Expected Output: Labelled prototype and individual reflection.

	Group prototyping → Group refinement → Teacher walk-around and nudging → Individual reflection note
	Peer feedback carousel (5 min) Groups present their system. Partners use three checks: 1. Is it safe and hygienic? 2. Does it reduce demand or keep water in useful circulation? 3. Can the impact be measured? Feedback format: 2 strengths + 1 practical improvement. • Tools: Feedback slips or Google Form. Group refinement (5 min) Groups add at least one visible improvement and complete: “Our intervention saves water because...” Teacher guiding: “Which feedback improves the whole system?” “Could the solution accidentally shift the problem elsewhere?” Expected Output: Improved prototype and measurable success criterion. Peer feedback carousel → Group refinement
Assessment & Reflection	Exit ticket: • “One place where water is lost or overused at school is...” • “One circular water principle I can apply at home is...” • Self-assessment: I used observation / data / systems thinking (choose two and explain briefly).
Inclusion Strategies (UDL)	How will SEN/ELL learners be supported? • Clear instructions. Present the task orally, visually, and in writing.

	• Concrete examples. Use photographs and familiar school locations. • Language scaffolds. Sentence starters: “Water enters from...”, “Water is wasted when...”, “Our intervention will...” • Flexible output. Students may draw a flow diagram, build a model, record audio, or write short phrases. • Check-ins. Teacher verifies understanding of safe versus unsafe water reuse. What adaptations will be offered? Visuals • Picture cards for tap, drain, rainwater, wastewater, treatment, reuse. • Colour-coded arrows for water entering, circulating, and leaving. Scaffolds • Partly completed school water map and decision matrix. • Simple flow-rate reference card. Group roles • Observer, mapper, data recorder, designer, presenter. Language supports • Bilingual word bank and translation tools. • Opportunity to rehearse the pitch with a partner.
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? The proposals can be shared with the school management team, caretaker, student council, or local water utility. A selection may form a “Every Drop Counts” display combining system maps, prototypes, and estimated savings.

	The activity can lead to a real water audit, a leak-reporting routine, clearer signage, or a pilot rainwater solution for garden use where regulations and safety allow. Students can compare baseline and follow-up measurements, making the impact visible rather than relying only on good intentions. In daily life, students learn to see water use as part of an interconnected system involving energy, infrastructure, ecosystems, and shared responsibility. The central change is moving from “use and drain” to “value, measure, reduce, and safely reuse.”
--	--

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

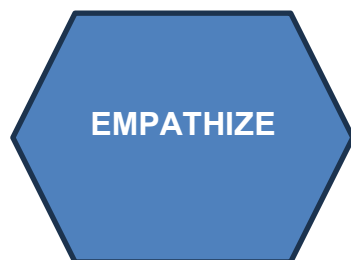
Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

GREEN LOOP LESSON PLAN

Lesson Title	Paper Has More Than One Story – Closing the School Paper Loop
Curriculum Link / Subject	Language Arts / Art / Mathematics / Environmental Studies
Circular Economy Theme	☒ Refuse ☒ Reduce ☒ Reuse ☒ Repair ☒ Recycle
Teacher	Helen Paju, Dairi Pärn
Grade Level	Lower Secondary (Grades 7-9)
Time/Duration	90 minutes
Objectives	Academic/subject /thinking skills objectives Investigate how paper is produced, used, collected, and recovered. Use simple data to compare paper-use patterns and identify avoidable consumption. Create a communication or service solution that improves the school paper loop.
	Sustainability/Circular Objectives Understand that recycling is only one step after refusing, reducing, and reusing. Recognise the value of fibres and the limits of repeated paper recycling. Promote responsible printing, reuse, sorting, and purchasing choices.
Systems Thinking Elements	• What affects what? Printing habits → paper demand → forest and energy use → waste collection → fibre recovery. • Where does waste or impact leak? One-sided sheets are discarded, unnecessary copies are printed, contaminated paper enters recycling, and recycled-content products are not purchased. • What small intervention could make a big difference? Default double-sided printing, a one-sided paper station, and simple sorting guidance at the point of disposal.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.



Teacher-led (5 min)

Show a clean sheet, a one-sided used sheet, a crumpled sheet, and a contaminated paper item.

Ask: "Do all of these have the same next life?"

- **Tools:** Real paper samples, projector.
- **Method:** Object-based visual trigger.

Individual observation (5 min)

Students examine their bag or desk and list paper items they used today. They mark each as necessary, reusable, recyclable, or avoidable.

- **Tools:** Paper-use snapshot card.
- **Method:** Personal material inventory.

Pair work (5 min)

Pairs compare lists and choose one example where the value of paper was lost too early.

Prompts: "Could it have been digital?" "Could the reverse side be used?" "Was it sorted correctly?"

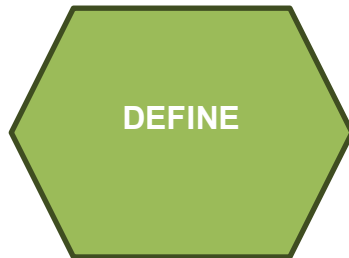
- **Method:** Think-Pair-Share.

Whole-class discussion (5 min)

Create a class map: refuse → reduce → reuse → recycle → purchase recycled content.

- **Tools:** Board, samples, sticky notes.
- **Output:** Shared understanding that a closed loop needs both collection and demand for recycled products.

Teacher-led → Individual observation → Pair work → Whole-class discussion



Teacher-led framing (5 min)

Explain the paper fibre journey and why fibres shorten each time they are recycled. Introduce contamination and the importance of keeping paper clean and dry.

- **Tools:** Fibre-cycle diagram and sorting examples.

Group “Paper Trail Audit” (3–4 students) (10 min)

Each group studies one paper stream: worksheets, office printing, art paper, notebooks, packaging, or paper towels.

Student prompts:

1. Why is this paper used?
2. How much is used in a typical day or week?
3. Is it printed on one or both sides?
4. Can it be reused before recycling?
5. What prevents correct sorting?
6. Does the school buy products containing recycled fibres?

- **Tools:** Sample items, tally sheet, optional scales or counts, school bin photographs.

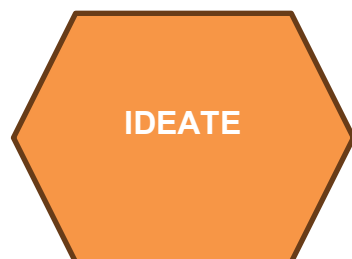
- **Method:** Material-flow analysis.

Whole-class sharing (5 min)

Groups identify one recurring leak. The teacher clusters findings: unnecessary use, poor reuse, confusing bins, contamination, purchasing gap.

- **Output:** One challenge statement: “How might we keep paper fibres useful for longer by ...?”

Teacher-led framing → Group “Paper Trail Audit” → Whole-class sharing



Divergent brainstorming (5 min)

Groups generate ideas for reducing printing, reusing sheets, improving collection, or choosing circular paper products.

Teacher prompts:

- “What could be refused completely?”
- “How could one-sided sheets become a useful resource?”
- “How could sorting instructions appear exactly where needed?”
- “How could digital tools reduce rather than increase duplication?”
- **Tools: Sticky notes, A3 sheet, Miro.**

Sharing and clustering (5 min)

Sort ideas into: refuse, reduce, reuse, sort, buy circular.

Guiding questions: “Which idea preserves the sheet before recycling?” “Which closes the loop after collection?”

Decision matrix (5 min)

Score ideas from 1–3 for paper avoided, ease of use, inclusion, cost, and measurability. Select one concept.

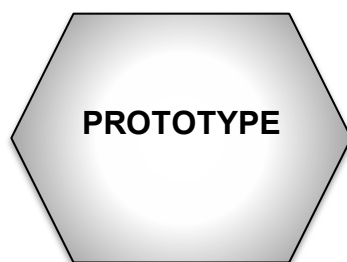
- **Tools: Printed matrix or spreadsheet.**

Whole-class check-in (5 min)

Each group gives a 30-second pitch: paper stream + value leak + selected intervention.

Expected Output: One justified concept ready to prototype.

Divergent brainstorming → Sharing and clustering → Decision matrix → Whole-class check-in



Group prototyping (10 min)

Create one of the following:

- a one-sided paper collection and redistribution station;
- a clear bin label and sorting guide;
- a print-request or double-sided default system;
- a notebook, art pad, or draft booklet made from reclaimed sheets;
- a campaign showing the complete paper loop.

The prototype must explain who uses it, where it belongs, and what happens next.

• **Tools: Reclaimed paper, cardboard, markers, binders, Canva or Figma.**

Group refinement (5 min)

Add a “fibre value” checklist:

- What paper is avoided?
- What paper is reused?
- What remains recyclable?
- How is contamination prevented?

Teacher walk-around and nudging (3 min)

Prompts: “Does the solution make the preferred action easiest?” “What happens when the station is full?” “Who maintains the loop?”

Individual reflection note (2 min)

“One paper habit I could change is...”

“Our solution keeps fibres useful by...”

Expected Output: Labelled prototype and individual reflection.

Group prototypin → Group refinement → Teacher walk-around and nudging → Individual reflection note

	Peer feedback carousel (5 min) Groups test their prototype with another group. Partners use three checks: 1. Is the action immediately clear? 2. Does it prioritise reduction and reuse before recycling? 3. Is responsibility for the next step visible? Feedback format: 2 strengths + 1 practical improvement. • Tools: Feedback slips or Google Form. Group refinement (5 min) Groups add one visible improvement and complete: "Our solution prevents paper from becoming waste too soon by..." Teacher guiding: "Could a new student understand it?" "Does the system work on a busy school day?" Expected Output: Improved prototype and simple impact measure. Peer feedback carousel → Group refinement
Assessment & Reflection	Exit ticket: • "One action that is better than recycling paper is..." • "One reason clean and dry sorting matters is..." • Self-assessment: I used evidence / hierarchy thinking / clear communication (choose two and explain).
Inclusion Strategies (UDL)	How will SEN/ELL learners be supported? • Clear instructions. Use short steps, icons, and demonstrations. • Concrete materials. Students handle and classify real paper samples. • Language scaffolds. Sentence starters: "This paper can be...", "The value is lost when...", "Our system makes it easier to..."

	• Flexible output. Students may build, draw, photograph, record audio, or use short labels. • Check-ins. Teacher confirms that students distinguish reuse from recycling. What adaptations will be offered? Visuals • Picture sequence of the paper fibre loop. • Sorting cards with clean, contaminated, reusable, and non-paper examples. Scaffolds • Partly completed paper-audit tally and decision matrix. • R-strategy prompt cards. Group roles • Auditor, sorter, recorder, designer, presenter. Language supports • Bilingual word bank and translation tools. • Model pitch and option to present with a partner.
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? The prototypes can be tested in classrooms, the staff room, library, or school office and shared with teachers, the student council, and families. A corridor display can show the journey of one sheet through several useful lives. The activity can lead to default double-sided printing, shared digital routines, reclaimed-paper stations, better bin labels, or student-made draft notebooks. A weekly count or weight of paper can provide evidence of change, while purchasing decisions can include recycled-content and certified paper.

PROJECT N° 2024-2-SK01-KA210-SCH-000278989

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

	In daily life, students learn that putting paper in a recycling bin is not the first or final answer. The central impact is a practical shift toward using less, using each sheet fully, sorting correctly, and supporting markets for recovered fibres.
--	---