PROGRAMME OF STUDY (CfE Level 2, P4–P7)

Repair Cafés and Sharing Libraries: Ideas That Work

STEAM Integrated | Sustainability | Circular Economy

This is a **4–6 week interdisciplinary unit** focused on community solutions that reduce waste, increase circularity, and build social responsibility.

🌟 BIG QUESTION

How can Repair Cafés and Sharing Libraries help us reduce waste, protect Earth's resources, and support our communities?

🌟 BIG IDEAS

- Repairing extends the life of products and reduces waste.
- Sharing libraries reduce consumption by providing access instead of ownership.
- Communities benefit when people share skills and resources.
- Science and engineering help us understand how things work and how to fix them.
- Design thinking helps us create systems that are fair, sustainable, and efficient.
- Data helps us measure how much waste we can prevent.
- Communication inspires others to take part in circular solutions.

📚 CfE LEVEL 2 EXPERIENCES & OUTCOMES (STEAM)

🔬 SCIENCES (SCN)

- **SCN 2-01a** – Classifying materials and discussing their properties.
- **SCN 2-04b** – Carrying out investigations using scientific enquiry.
- **SCN 2-17a** – Describing responsible use of Earth's materials.
- **SCN 2-20a** – Exploring forces and real-world applications.

🤖 TECHNOLOGIES (TCH)

- **TCH 2-01a** – Planning and designing steps in a process.
- **TCH 2-04b** – Using design skills to solve real problems.
- **TCH 2-06a** – Understanding engineering solutions in everyday contexts.
- **TCH 2-07a** – Exploring properties and uses of materials.
- **TCH 2-09a** – Sustainability and environmental impact in design.

📊 MATHEMATICS & NUMERACY (MNU)

- **MNU 2-20a** – Data gathering, interpretation, display.
- **MNU 2-11a** – Measurement for practical problems.
- **MNU 2-22a** – Fractions/percentages for comparisons and improvements.

✏️ LITERACY (LIT/ENG)

- **LIT 2-02a / 2-06a** – Selecting and using information.
- **LIT 2-10a** – Communicating orally for different purposes.
- **ENG 2-27a** – Writing for a range of audiences and purposes.

🎨 EXPRESSIVE ARTS (EXA)

- **EXA 2-02a** – Using visual elements to communicate ideas.
- **EXA 2-03a** – Creating artworks using different materials and technologies.

🌍 SOCIAL STUDIES (SOC)

(Optional but valuable for context)

- **SOC 2-20a** – Understanding how local organisations use resources responsibly.

- **SOC 2-13a** – Exploring rights, responsibilities, and community participation.

🧠 LEARNING AIMS FOR THE UNIT

Learners will:

- Understand what Repair Cafés and Sharing Libraries are.
- Explore how repairing and sharing reduce waste and protect natural resources.
- Investigate *why things break* using science and engineering principles.
- Learn simple repair skills (fabric repair, basic electronics, toys, bikes, tools as appropriate).
- Analyse school/community waste data to measure the need for repair or sharing systems.
- Design a **prototype Sharing Library** for their school or community.
- Use STEAM thinking to propose solutions that are sustainable, accessible, and fair.
- Present their ideas like real sustainability designers.

🗂️ LEARNING SEQUENCE (4–6 WEEKS)

⭐ WEEK 1 – What Is a Repair Café? What Is a Sharing Library?

Es & Os: SOC 2-20a, SCN 2-17a, LIT 2-02a

Activities:

- Explore global and Scottish examples of Repair Cafés and Tool / Toy Libraries.
- Watch short videos; analyse benefits for environment & community.
- Create a “What We Already Know / What We Wonder” board.
- Map items in school/home that could be repaired or shared.
- Class discussion: *Why do things break? Why do we buy instead of share?*

Outcome:
Learners understand the purpose, environmental benefits, and social value of repair & sharing.

⭐ WEEK 2 – Investigate: How Do Materials and Forces Affect Durability?

Es & Os: SCN 2-01a, SCN 2-20a

Activities:

- Test materials (plastic, metal, wood, fabrics) for strength, wear, flexibility.
- Explore why certain objects fail (snapped plastic, torn fabric, loose screws).
- Conduct simple experiments on friction, loading, tension.
- Link science findings to real repair decisions.

Outcome:
Learners understand how materials and forces influence product failure and repairability.

⭐ WEEK 3 – Engineering Repair: Solve It Like a Fixer

Es & Os: TCH 2-06a, TCH 2-07a

Activities:

- Safe examination of broken items (toys, zips, books, sports equipment, school tools).
- Identify failure points: joints, fastenings, materials, connectors.
- Practise simple repair skills:
    - Sewing/patching
    - Screw tightening
    - Gluing (non-toxic)
    - Replacing parts (buttons, laces, cable tidies)

Outcome:
Learners begin to view repair as a scientific and engineering problem-solving process.

⭐ WEEK 4 – Design Thinking: Creating a School Sharing Library or Repair Station

Es & Os: TCH 2-01a, TCH 2-04b, EXA 2-02a, LIT 2-06a

Activities:

- Learners define a real need:
  "What items in our school would work well in a Sharing Library?"
- Produce sketches, plans, or digital layouts.
- Consider: user needs, sustainability, safety, organisation, fairness.
- Research existing sharing systems (Little Libraries, sports gear sharing, tool libraries).
- Create visual concept boards or posters to show their plan.

Outcome:
Learners design a workable solution that supports sharing and reduces resource use.

⭐ WEEK 5 – Data Detectives: How Much Waste Could We Reduce?

Es & Os: MNU 2-20a, MNU 2-22a

Activities:

- Conduct a simple school waste audit (e.g., broken pencils, abandoned toys, lost property).
- Count repairable vs non-repairable items.
- Use percentages/fractions to analyse how much waste could be prevented.
- Create graphs showing:
  - "Items we could repair"
  - "Items we could share"

Outcome:
Learners use real data to justify the need for repair or sharing systems.

⭐ WEEK 6 – Share Your Solution: Present Like a Change-Maker

Es & Os: ENG 2-27a, LIT 2-10a, EXA 2-03a

Activities:

- Groups create a pitch for their Repair Café or Sharing Library concept.
- Include:
    - visual designs
    - data
    - environmental arguments
    - community benefits
    - cost-saving or resource-saving claims
- Present to another class, school leaders, or community partners.
- Optional: Create posters or campaigns encouraging others to repair/share.

Outcome:
Learners communicate sustainability solutions with confidence.

🎯 LEARNER-FRIENDLY SUCCESS CRITERIA

“I can…”

✔ Explain what Repair Cafés and Sharing Libraries do
✔ Describe how repairing and sharing help the environment
✔ Investigate why things break and how to fix them
✔ Use scientific evidence to make design choices
✔ Plan a Sharing Library or Repair Station that helps my school
✔ Collect and analyse data to support my idea
✔ Present my ideas clearly with diagrams, numbers, and reasons

LEVEL 2 BENCHMARKS

Repair Cafés and Sharing Libraries: Ideas That Work

CfE P4–P7 | STEAM Focus

🔬 SCIENCES – Level 2 Benchmarks

(Linked to SCN 2-01a, SCN 2-04b, SCN 2-17a, SCN 2-20a)

By the end of the unit, learners can:

Understanding Materials & Durability

- Correctly classify materials (plastic, fabric, wood, metal) based on observable properties.
- Explain how material properties affect durability, repairability, and sustainability.
- Identify common reasons items break (e.g., material fatigue, friction, wear and tear).

Scientific Inquiry & Testing

- Ask relevant scientific questions about why items fail or how they can be repaired.
- Plan and carry out simple tests on materials or components (strength, flexibility, absorbency).
- Record observations accurately using tables, labelled diagrams, or notes.
- Use evidence to suggest suitable repair solutions.

Sustainability & Earth's Resources

- Explain how repairing and reusing materials reduces the need for new resources.
- Describe environmental impacts of producing and disposing of materials.
- Offer realistic ideas for responsible use of Earth's resources through repair or sharing.

🤖 TECHNOLOGIES – Level 2 Benchmarks

(Linked to TCH 2-01a, TCH 2-04b, TCH 2-06a, TCH 2-07a, TCH 2-09a)

By the end of the unit, learners can:

Design & Planning

- Identify a school or community problem that a Repair Café or Sharing Library could solve.

- Generate multiple ideas and represent them through sketches, diagrams, or digital layouts.
- Plan step-by-step processes needed to repair an item or set up a sharing system.

Repair Skills & Engineering Thinking

- Safely examine simple items (toys, books, zips, tools) to identify faults.
- Suggest appropriate repair methods based on material properties and engineering understanding.
- Carry out basic repair actions (tightening, stitching, fastening, gluing, patching) safely and effectively.

Sustainability in Design

- Explain why repairing extends product life and reduces waste.
- Identify which materials or items are suitable for sharing rather than owning.
- Apply principles of accessibility, fairness, and sustainability in designing a Sharing Library.

Prototyping & Evaluation

- Create a prototype, model, or plan of a Repair Station or Sharing Library.
- Test ideas using structured criteria (durability, ease of use, safety).
- Modify ideas after feedback or evaluation and explain their improvements.

📊 MATHEMATICS & NUMERACY – Level 2 Benchmarks

(Linked to MNU 2-11a, MNU 2-20a, MNU 2-22a)

By the end of the unit, learners can:

Data Handling

- Collect waste or lost-and-found data within the school.
- Present findings using tables, bar charts, pictographs, or pie charts.
- Interpret results to identify which items could be repaired or shared.

Numeracy in Sustainability Context

- Use fractions, ratios, or percentages to explain potential reductions in waste (e.g., “We could reduce toy waste by 40%”).
- Estimate the environmental or financial benefits of repairing vs replacing.
- Solve practical measurement problems related to planning storage layouts for a Sharing Library.

✏️ LITERACY – Level 2 Benchmarks

(Linked to LIT 2-02a, LIT 2-06a, LIT 2-10a, ENG 2-27a)

By the end of the unit, learners can:

Research & Information Literacy

- Find and use information about Repair Cafés, Sharing Libraries, and sustainability.
- Summarise key ideas in their own words.

Explanation & Reporting

- Produce a clear written or digital explanation of:
    - how repairs work
    - why reducing waste matters
    - how a Sharing Library operates
- Use technical and sustainability vocabulary accurately (repair, durable, borrow, share, reuse, lifecycle).

Presenting & Communicating

- Deliver a spoken pitch or presentation about their Repair Café or Sharing Library design.
- Communicate clearly using visual support (posters, diagrams, infographics).
- Answer questions confidently and justify their decisions with evidence.

🎨 EXPRESSIVE ARTS – DESIGN – Level 2 Benchmarks

(Linked to EXA 2-02a, EXA 2-03a)

By the end of the unit, learners can:

Visual Thinking & Design Communication

- Create labelled sketches or design boards that communicate their concept.
- Use colour, layout, and symbols to show how their Sharing Library or Repair Station will function.
- Produce promotional materials (posters, logos, signage) encouraging others to repair or share items.

Creative Development

- Refine visual ideas through feedback and iteration.
- Combine artistic creativity with practical design considerations (space, flow, accessibility).

🌍 SOCIAL STUDIES – Level 2 Benchmarks

(Linked to SOC 2-20a, SOC 2-13a)

By the end of the unit, learners can:

Understanding Community & Environment

- Explain how community organisations help reduce waste and support sustainability.
- Describe how sharing resources supports fairness and reduces inequalities.
- Identify ways in which they can contribute to a responsible and caring community.

🧭 INTERDISCIPLINARY (IDL) BENCHMARKS – Level 2

By the end of the unit, learners can:

- Make clear connections between science, engineering, maths, design, and social responsibility.

- Propose real solutions for school/community waste reduction.
- Use evidence gathered from testing, research, and data collection to justify their ideas.
- Reflect on how repair and sharing systems support a circular economy.

⭐ PUPIL-FRIENDLY “I CAN” BENCHMARK STATEMENTS

“I can…”

✔ Explain why repairing and sharing are good for the environment
✔ Sort materials and explain which ones are easiest to repair
✔ Use simple tools safely to fix or improve an item
✔ Plan a Sharing Library or Repair Station that people will want to use
✔ Collect data and use it to show why my idea is needed
✔ Present my idea clearly and confidently
✔ Work with others to design a sustainable community solution