LESSON PLAN

Revitalisation: Bringing Old Buildings Back to Life

Age Level: 12-18
Duration: 8-10 hours of lessons
Role of teacher: Coaching, guiding, moderating
Role of student: Taking agency, acquiring knowledge and skills, collaborating, reflecting

Learning Objectives

- Understand the cultural, environmental, and social value of historic buildings.
- Analyse challenges and opportunities related to revitalising unused heritage structures.
- Produce a proposal based on evidence, research, and analysis.
- Present and refine a final solution after feedback.

Skills Development

- Critical thinking
- Exploratory investigation
- Empathy and community awareness
- Digital literacy (optional: 3D modelling / Minecraft / video editing)

Nb: Teachers can explore the Teacher Training on Skills HERE to select those most appropriate.

Materials Needed

- Laptops or tablets
- Access to online archives, local maps, municipal websites, or heritage databases
- Projector for videos/slides
- Cameras/phones to capture building images
- Optional: Minecraft/Roblox/3D modelling tools

Relevant Knowledge Pills

1. Bringing Old Buildings Back to Life
2. AI-Powered Building Design and Optimisation
3. Energy Efficiency

Didactic objective of lessons:

Lessons	Phase	Didactic objective
Lesson 1	**Explore**	Engage students in the topic by exploring their prior knowledge and opinions, introducing key concepts through the Knowledge Pills and ensuring everyone reaches a shared foundational understanding of the subject**.**
Lesson 2-6	**Research, Analyse, and Ideate**	Guide students to identify what empirical evidence is needed, collect and analyse it, and use their findings to develop feasible, sustainable, and beneficial proposals for revitalising buildings in their city.
Lesson 7-8	**Present, Feedback, Reflect**	Support students as they present their proposals, gather feedback from peers, experts or stakeholders, and reflect critically to refine and improve their final products.

Nb: timeline is flexible

Problem-Oriented Learning Situation on Revitalising Historic Urban Buildings

Driving Question

How can we turn unused historic buildings into assets for a young, smart city community?

Scenario

Many cities face the dual challenge of meeting a growing demand for buildings due to urbanisation, while also reducing CO_2 emissions. Revitalisation and reuse of existing structures can be essential for preserving heritage, cutting emissions, limiting waste, and supporting a sustainable future. To address this growing challenge, the local cultural heritage and urban regeneration office has launched a public call for innovative ideas to transform unused historic buildings into meaningful and sustainable community assets. The aim is to protect the building's cultural and architectural heritage while upgrading it into a functional, energy-efficient space that contributes to both environmental goals and the needs and well-being of residents.

Task

Students design an evidence-based proposal responding to their local heritage authority's call for ideas to revitalise an unused historic building in their city. Working in groups, they select one specific building and develop a clear, research-informed concept for how it could be transformed into a restored, functional, and community-oriented space that respects its cultural value while contributing to environmental sustainability. The goal is to demonstrate that the proposal is feasible, sustainable, and beneficial for both the environment and the wider community.

LESSON OUTLINE

LESSON 1 – Explore (1 lesson)

Introduction to Bringing Old Buildings Back to Life

Objective: *Students build a foundational understanding of heritage value, building renovation, urban revitalisation, and sustainable smart city transformation.*

Opening Discussion

Teacher Action:

- Ask the students: "Why do historic buildings matter to a city?"
- And: "What happens when historical buildings are abandoned?"
  Record student ideas (identity, culture, memory, architecture, waste, community loss, etc.).

Student Action:
Share examples of local unused historic buildings. Discuss what they know about them.

Why:
Activates prior knowledge, helps students emotionally connect to the topic.

Short Presentation on Heritage & Revitalisation

Teacher Action:

- Show this video about Ricardo Bofil's Cement Factory.
- Ask comprehension questions
- Highlight challenges identified such as structural complexity (getting a factory to feel like a home), adaptive use (repurposing of large, unusual space), cost and management.
- Guide students towards examples of innovative revitalisation projects undertaken locally or regionally.

Student Action:

- Take notes and relate examples to their city or region.

Why:
Provides a concrete understanding of what revitalisation can look like.

Introduce the Learning Situation & Driving Question

- **Present the driving question:**
  "How can we turn unused historic buildings into assets for a young, smart city community?"

- **Present the task:**
  Explain to students that they will prepare and submit a proposal outlining creative solutions for transforming an existing historical building into an asset for the community (see full description of task above).
  Emphasise that their work must follow an enquiry-based approach to ensure their proposals are grounded in solid, evidence-based reasoning:
  Explore → Research → Analyse → Ideate → Present → Reflect

Student Action:

- Read the Knowledge Pill on Bringing Old Buildings Back to Life

Why:

- Frames the challenge and ensures students have the basic knowledge needed and understand the task before starting research.

LESSONS 2-6 – Research, Analyse, Ideate

Step 1: Research & Evidence Collection (Lessons 2–3)

Objective: *In smaller groups (3-4 persons), students gather evidence, analyse it, and develop potential solutions based strictly on* ***research and analysis.***

Nb: Remind students that effective project management, including careful planning, clear role allocation, and setting realistic deadlines, is essential for completing their work efficiently.

Step 1: Research & Evidence Collection (Lesson 2 - 3)

Teacher Action:

- Guide the students to identify what type of evidence is needed to design an informed proposal for revitalising a historical building
- Explain the types of evidence needed:
  - **First-hand evidence:** photos, surveys, interviews, focus groups with residents, local stakeholders or cultural organisations, observations (structural state, accessibility, surroundings)
  - **Second-hand evidence:** Knowledge Pills, historical records, municipal development plans, reliable and relevant and reports, academic and newspaper articles, or statistics.
- Emphasise that **no solution ideation should begin before evidence is collected and analysed**.

Student Action:

- Determine what evidence is needed to complete the task.
- Collect first-hand evidence: photos, interviews, surveys.
- Collect second-hand evidence: YSC KPs, historical documents, articles.

Why:

- Gathering reliable evidence ensures that proposed solutions are grounded in facts and local context rather than assumptions.

Step 2: Analyse Evidence (Lessons 4–5)

Objective: *Students interpret their collected data to identify needs, opportunities, and constraints.*

Teacher Action:

- Help students organise their findings into charts, tables, photo documentation, before/after diagrams.

Student Action:

- Analyse collected data to identify key insights about:
    - **Why** this building matters
    - **What** is the building's current condition
    - **What** heritage features must be preserved
    - **Who** the revitalised building should serve and how
    - **How** modern smart city solutions can be integrated

Why

Analysis ensures students' choices are justified and feasible.

Step 3: Ideate Solutions (Lesson 6)

Objective

Groups design evidence-based revitalisation proposals.

Teacher Action:

- Encourage students to propose solutions **based on empirical evidence and analysis**.

- Ensure solutions address feasibility, sustainability, and community/environmental benefits.

Student Action:
Create a preliminary design proposal including:

Students work in groups to create a preliminary, evidence-based proposal to transform a historic building into a liveable, sustainable space. Include the following:

- **Location & History**
    - Show the building's location (maps, GIS, etc.).
    - Explain its original use and why it was abandoned.
- **New Purpose, Vision & Visualisation**
    - Define the building's new role (e.g., youth centre, gallery, innovation lab).
    - Explain why it needs revitalisation and how it will serve the community.
    - Include "before" photos and sketches, renderings, or digital models for the "after" design.
- **Renovation Plan**
    - Outline steps: stabilise structure, restore façade, redesign interiors, integrate technology.
    - Include a simple timeline and low-impact construction ideas.
- **Environmental & Smart Solutions**
    - Suggest eco-friendly upgrades: insulation, solar panels, water-saving systems, green roofs.
    - Include smart city features: accessibility, sensors, digital signage, and community-sharing tools.
      Stakeholders & Impact
    - Identify key stakeholders and explain how they will benefit.
- **Maintenance Plan**
    - Describe who will maintain the building, possible partnerships, and community involvement.

Why

Ensure the proposal is practical, sustainable, heritage-respecting, and grounded in evidence.

LESSONS 7-8 – Present, Feedback, Reflect

Lesson 7: Presentations & Feedback

Objective: *Students present proposals, receive feedback, and refine final solutions.*

- Explain that peer and expert review are important when preparing a proposal; they help improve the overall quality of the end product.
- Facilitate presentations to class or panel.
- Encourage external feedback from community members, parents, local heritage experts or other students.
- Model constructive feedback techniques.

Student Action:

- Present proposals using visuals and clear explanations.
- Reflect on feedback and make adjustments where needed.

Reflection Prompts

- What did we learn about revitalising old buildings?
- How does revitalisation help the community and environment?
- What parts of our proposal were strong or weak?
- What did stakeholders appreciate or question?
- How well did our team collaborate?

Why:

- Reflection and feedback improve solution quality and develop metacognitive and collaboration skills.

Lesson 8: Final Submission & Voting

Teacher Action

- Collect final refined proposals and facilitate voting.

Student Action

- Submit final proposal.
- Vote for the strongest solution based on evidence, feasibility, and stakeholder impact.
- Submit selected proposals to local heritage organisation or mock “city council.”

Optional Extensions

- **Field Trip:** Visit the unused building or similar revitalised sites.
- **Guest Speaker:** Architect, city planner, historian, or sustainability expert.
- **Technical Workshop:** Intro to 3D modelling or Minecraft educational use.