



## Chapter 4: Refurbishment

### Aims

- To allow students to appreciate the remarkable characteristics of a historic building.
- To allow students to gain experience with an authentic, large-scale construction project.
- To challenge students to work in larger teams.

### Lesson Overview

Battersea Power Station is a gigantic monument, and represents a piece of history that is worthy of preservation. The building is iconic and serves as a landmark for the city, for which reason it is a listed building. The preservation order applies specifically to the four distinctive chimneys at each corner of the building, which may not be demolished. Apart from these, the groups may freely decide which new features they will give the building.

As input for this challenge, it can be an advantage to break the task down into several possible tracks. This may be structured by considering the basis of the following functions:

- *Live*: Install residences.
- *Work*: Give companies office facilities.
- *Play*: Transform into an interactive, entertaining and playful environment.
- *Shop*: Equip with shops and shopping facilities.
- *Eat*: Equip with restaurants and cafes.
- *Stay*: Create accommodation possibilities.

This division is taken from the current [redevelopment project](#), which creates a mixture of all six possibilities. The groups can draw inspiration from this and plan their project with emphasis on specific functions.

The construction planning may be based on the following questions:

- What functions does our group wish to emphasise when we redevelop the building?
- Which parts of the existing structure are suitable for the various tracks?

- Which parts of the structure should be demolished / preserved?
- Which group members will take responsibility for the various phases?

The project undergoes five different phases:

- Design and planning (off game)
- Demolition
- Basic structure
- Facades / exterior
- Detailing / interior

These phases include elements of the working procedures the groups have already experienced in Chapters 2 and 3. The challenge in this project is that the size of the building makes demands on the group's ability to see overall solutions while at the same time dividing the whole building into smaller tasks that can be delegated within the group.

A second focus area that groups should be aware of is that they need to work from "the rough" towards "the detailed". It is a pitfall to begin detailing too early, and here it is important that the teacher, as facilitator, requires the groups to undergo all the phases of construction, which ensures that a virtual rough sketch is created before detailing takes place.

The groups plan their constructions using the templates that have been placed at their disposal. In these, you can see the building from five sides, plus an isometric view. It may be beneficial to discuss together how to exploit that fact that the group has many members, and ways to turn this into an advantage rather than a disadvantage. These might for example include:

- Appointing a group leader
- Delegating areas of the building to a team with a specific task
- Creating a team to come up with a separate proposal for how, for example, shops or offices should be implemented.
- The group can also choose to split into two sub-groups, each of which develops a draft plan, after which the group as a whole agrees on which ideas they wish to further develop.

When the groups have developed a plan for the redevelopment, they present it. Here they must argue for the choices they have made, and explain how their idea will benefit the citizens of Newtown.

### **Before (3 - 5 hours)**

1. The groups investigate Battersea Power Station in order to obtain an understanding of the building's characteristics and architectural value. Here it is worth noting that:
  - The building is one of the largest brick buildings in the world.
  - It is one of London's most famous landmarks.

- The fame of the building is partly due to its inclusion as a reference in several areas of popular culture.
- 2. [See teacher/ student resources](#)
- 3. The teacher introduces six different approaches to the redevelopment of the building: *Live, work, play, shop, eat, stay*. Here it may be remarked that there have been concrete plans to turn the plant into an amusement park or a football stadium.
- 4. The teacher composes new groups, in which the groups go together, 1 and 2, 3 and 4, etc. The teacher explains to the class that the challenge is to create both a good solution and good teamwork. This is more difficult with larger groups.
- 5. The teacher facilitates a joint discussion of how to structure the group work when there are more members. The teacher indicates various proposals – as described in the Lesson Overview.
- 6. The groups then begin developing ideas for the redevelopment and outline how it should look. The groups use the templates available through [ciobmc.org](http://ciobmc.org).
- 7. When the groups have drawn up their initial proposals, the teacher outlines the phases of construction to all the groups, and stresses the importance of working with a “rough sketch” before going into details.
- 8. The groups then discuss how to approach the construction process, and prepare a presentation in which they show and explain what they want to build, and how they will delegate the work.
- 9. The groups receive feedback from each other at each presentation.

#### **In game (4 - 6 hours)**

1. The groups log in to Minecraft and make their way to their construction site. Those students who wish to do so can try out the “build tool” in a separate construction area. The teacher can assign selected students to this skill.
2. The groups begin the first phase, demolition. It can be convenient for a student with permission to use the “build tool” to do this work. While this is going on, the second phase, basic structures, may be initiated by students who are not involved in demolition.
3. After about 45 mins the teacher pauses the game and indicates that the groups now need to move on from demolition to establishing the final basic structure. Students must document the process with screenshots.
4. In the same way, the teacher initiates the next two phases by pausing the game and asking everyone to document the process with screenshots. It is important that the teacher sets time limits, so that students feel that they have a deadline by which they must reach a certain goal.
5. When the construction has reached the detailing phase, the teacher can assign extra time, during which the groups can go back and create new iterations. The challenge of this task is that it can take a very long time to be “finished”. Here, an important lesson of iterative workflows is that you are constantly in a process in which the product is being refined.
6. Finally, the groups document their work with screenshots, and possibly video recordings.

### **After (2 - 3 hours)**

1. The groups prepare presentations of their constructions, in which they must answer the following questions:
  - What have you built?
  - Why did you build it like this?
  - What have you done to emphasise / preserve the building's special characteristics?
  - How will the citizens of the city benefit from this building?
  - How do you assess your own ability to perform together as a team?
  - How do you think things might possibly be done better next time?
2. The groups present their constructions and answer the above questions.
3. The teacher sums up and highlights the challenges that the groups encountered, and uses these as the basis for a class discussion on the complexity of teamwork in joint productions.

### **Evidence of Learning**

- The student shows awareness of preservation-worthy constructions in a building.
- The student can show a production that has been developed through several specific construction phases.
- The student can reflect on teamwork in a group, and on how this might be improved.