Design Processes

Architecture Gallery Activity

Teacher's Information

Room 128

Materials wall

E. Eden Project

Biome (model), Nicholas Grimshaw & Partners, Lent by Grimshaw, RIBA: MOD/GRIM/1

D. Stansted Airport

(Structural models) Lent by Arup Associates V&A: LOAN:ARUP.3-2003

C. St Mary's Axe

Foster & Partners, V&A: LOAN:FOSTER.1-2003

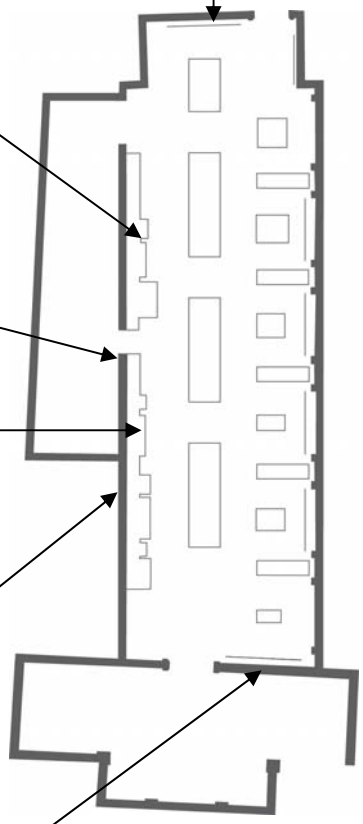
B. Sydney Opera House

Wooden model of Jorn Utzon's design. RIBA Library Drawings Collection www.ribapix.com

A. St Paul's Cathedral

Sir Christopher Wren

V&A: E.1195-1931



Use the object labels to find out more information about the models and to see images of completed buildings.

Architecture Gallery, Room 128, Level 4

The Architecture gallery features highlights from the world-class V&A and RIBA collections. On display are models, drawings, photographs and fragments of buildings from across the globe. In this gallery, students will be able to learn about different processes that architects have used to develop and present design ideas and get inspiration for their own projects. Key objects and processes that you could point out to students and explore together as a group are shown on the above map. They include:

A. St Paul's Cathedral
(isometric projection)
London, England
Built 1675-1711
Sir Christopher Wren (1632-1723)

Drawing 1923-8 by R. B. Brook-Greaves and W. Godfrey Allen
Pen and ink on paper, 3943 x 2747 mm
Given by Sir Mervyn Macartney
V&A: E.1195-1931

St Paul's Cathedral took 36 years to build. This magnificent drawing (which took draughtsmen more than four years to complete) shows how it is constructed. The massive masonry walls and foundations underpinning the cathedral are all clearly visible, as are the classical motifs and the structure of the dome. The dome has three layers. A brick dome is visible from the church floor. A brick cone covers this, supporting the weight of the lantern.

B. Opera House
(demonstration model)
Sydney, Australia
Built 1956-73
Jorn Utzon (born 1918)

Model made about 1961 in Denmark by Paul Gulberg
Painted wood,905 x 305 x 135 mm
Given by Jorn Utzon, 1978
RIBA: MOD/UTZO/1

When Utzon won the Sydney Opera House competition in January 1957, no one knew how to build the roof structure. This wooden model shows the solution that he eventually devised. Utzon's original concept showed huge, billowing shells resting on narrow points, but the engineer, Ove Arup, saw that the shells would not sustain the forces they would generate. Also, they were irregular and could not be defined mathematically. Arup and Utzon worked together to develop a solution.

C. 30 St Mary Axe
(volumetric models)
London, England
Built 2001-3
Foster and Partners

Models 1997-9
Rohacell foam and paint
350 x 120 x 120 mm
Lent by Foster & Partners
V&A: LOAN:FOSTER.1-2003

Foster & Partners made these models to work out the best shape for the 180-metre high office building in the City. They modified them to take into account the bulk, visual impact and aerodynamic qualities of the building, also the provision of open space at ground level. The models show how buildings of different shapes can have equal volume. The missile shape appears more slender than a rectangular block of equivalent size

D. Stansted Airport
(structural models)
Essex, England
Built 1987-90
Foster and Partners, Ove Arup & Partners

Models about 1984 by Grace Development Models
Timber, plywood, perspex, styrene, wire, nuts and bolts,275 x 490 x 530 mm
Lent by Arup Associates
V&A: LOAN:ARUP.3-2003

Some complex 'high-tech' buildings require close collaboration between the architect and engineer. These intricate models, at several different scales, show the structural system that was chosen for Stansted Airport. It is an elegant solution to the problem of providing large, uninterrupted spaces for the efficient flow of passengers.

E. Eden Project Biome Section
(working sketch model)
Cornwall, England,
Built 2000-2001.
Nicholas Grimshaw, of Grimshaw Architects

Model made by Andrew Ingham & Associates
Plastic
V&A LOAN:GRIMSHAW.1-2003

The Eden Project is the largest plant enclosure in the world. This model shows the development of the pioneering 'biome' structures invented by Grimshaw Architects. They are constructed from lightweight steel tubes and joints, which support cladding pillows made of triple layered high performance EFTE foil. This ecological design minimises weight and maximises sunlight and warmth inside the structure.

Gallery Activities
Give out the worksheets for Museum Activities, downloadable online. Remind the students of their brief:

- Create a design for a shelter or a product such as a bag.
- Get design inspiration from what you see in the Museum today.

Encourage students to discuss the range of the objects on display:

- Why have these models been made, and at what stage in the design process?
- What different modelling techniques have been used?
- Which models are most inspiring?
- What makes an iconic or famous design special?