



National Building Museum Homeschool Programs

Architecture 101

7–14 year olds, 2 hours

Students engage in observation, drawing, and math exercises to build the skills crucial to being an architect: model-making, architectural drafting, and communication. During the program, students will also visit one of the Museum's exhibitions as an introduction to the work of architectural creation.

Build a Green Roof

4–6 year olds, 1.5 hours

Students learn about green roofs: the practice of growing plants on a building's roof to absorb rain water and to make buildings more environmentally friendly. After looking at photographs of green roofs, students build a model house with craft materials and a roof using real dirt and grass seeds. Students will take home their houses to watch their green roofs grow.

City by Design

7–9 year olds, 2 hours

Students become city planners for the day as they design and build their own model city. Students consider the problems a city can have and offer solutions by planning their own community. They use their imaginations to design and construct model buildings for the city using colorful supplies and recycled materials. Students will take their model buildings home.

Designing for the Arctic

7-9 year olds, 2 hours

Students will become architects and "meet" their client: a family in need of a new house in Barrow, Alaska. The family wants an environmentally sustainable home that can work with the extremely cold climate of the Arctic Circle. After investigating the climate and geography of this, the Northernmost city in the United States, green homes from the past and present, and green technologies and materials, students design and construct a model home to meet their clients' needs. Students will take their designs home.

Designing for the Delta

7-9 year olds, 2 hours

Students will become architects and "meet" their client: a family in need of a new house in the New Orleans area. The family wants an environmentally sustainable home that can work with the humid, rainy climate of the Mississippi River Delta. After investigating the climate and geography of this region, green homes from the past and present, and green technologies and materials, students design and construct a model home to meet their clients' needs. Students may take their designs home.

Designing for Disaster

10–14 year olds, 2 hours

In this hands-on investigation, students will learn how buildings can be built to withstand the force of an earthquake. They will experience the engineering design process by investigating front-line earthquake resilient technology and working in groups to design, construct, and test model buildings using a shake table. After analyzing how their structures performed, students will consider how they could improve their designs.

Designing on the Wild Side

4–9 year olds, 1.5-2 hours

Where would an orangutan like his bed? Does a tiger need personal space? What kind of exercise equipment does a macaw like? Students will investigate questions of this sort as they design habitats for animals and explore the client/architect relationship. After planning and designing a habitat for an animal, students will build model habitats to take home.

Engineering Egg Drop

7–14 year olds, 2 hours

Students learn about the process engineers use to bring new ideas to life. They are then given an engineering problem to solve through experimentation: how can they drop a raw egg safely from the Museum's second floor balcony to the first floor without breaking? Is it possible using only one sheet of paper and a rubber band? Come test out your ideas!

Fuller's Fantastic Geodesic Dome

10–14 year olds, 2 hours

What is a geodesic dome? Why did Buckminster Fuller think that the dome was such an innovative structure? How are engineering and math principles combined into this unique structure? Students investigate these questions while working together to construct a 6.5' x 13' geodesic dome.

My House, My Home

4–6 year olds, 1.5 hours

In the Museum's [House & Home](#) exhibition, students have an opportunity to look closely at photographs and models of past and present American homes. This exploration continues in one of the Museum's classrooms where students learn about the process of building a house through a hands-on demonstration with real tools and materials. These young builders then create their own houses out of color craft materials to take home.

Patterns Here, There, and Everywhere

4–6 year olds, 1.5 hours

Students learn about the importance of patterns in the buildings and world around them. On a scavenger hunt of the Museum's building, students identify shapes and patterns by examining the walls, floors, and ceiling of the Museum. After investigating the Museum building, students head to a museum classroom to create patterns in individual booklets with a variety of materials.

Roller Coaster Rally

7-9 year olds, 2 hours

How do roller coaster designers create tracks that rise, fall, curve and loop, all while keeping their passengers safe? Discover the physics behind roller coaster design in this program. Students will design their own roller coaster courses for marbles, completing various challenges along the way. Class will conclude with students getting to test each other's creations.

Storybuilders

7-9 year olds, 2 hours

Can a building tell a story? By looking closely at the National Building Museum and a visit to the Museum's [Cool & Collected](#) exhibition, students learn about the elements of a story and how they are portrayed in buildings. Students then tell a story by creating a frieze out of clay. Students will take home their friezes.

Symbolic Architecture

10–14 year olds, 2 hours

As the nation's capital, Washington, D.C. is both a city of residents and a national symbol. During this program students investigate how some of Washington D.C.'s monuments and memorials are examples of symbolic architecture. Through this exploration, students learn about the history of D.C. then become architects as they design their own symbolic building for the National Mall.

Think Global, Build Local

10–14 year olds, 2 hours

Students learn what makes a home environmentally sustainable, or "green," by investigating green homes from the past and present. Students investigate different technologies and materials that help make each home suitable for its geographic region. Students then become architects and design and construct model green homes for several different geographic regions. Students take their designs home.

Water Works

7–14 year olds, 2 hours

In this program, students will learn through experimentation about the awesome power of water pressure and how civil engineers have utilized it over time. Students will work in small groups to create miniature architectural structures that transport water over distances, and shoot water the farthest possible distance. Using what they have learned, students will then design and build PVC pipe fountains. Students may get slightly wet during this class.