

# Thinking Like an Architect

“As an architect you design for the present, with an awareness of the past, for a future which is essentially unknown.” – Norman Foster  
“Architecture begins where engineering ends.” – Walter Gropius

## Overview

Architects are the professionals who design the places we live, work and play. Architects use science and math to solve problems related to building and structures. They are professional problem-solvers and innovators! For all of known history humans have expressed their innovation and creativity through the buildings and structures they have built. In this course bundle, students will take a journey through time to study the different major eras of architecture. Students will learn how to think like an innovator by learning how to see the world through the eyes of an architect.

For a final activity students will design and construct their own dream home using 3D design software.

## Learning Targets

- I can explain the 6 steps of problem solving and apply them to problem-solving activities.
- I know how to use techniques like the 5 Why's problem identity technique and the "What if" technique.
- I can explain what an idea is and how to have more of them.
- I can demonstrate the use of different brain-games to help build innovative muscle.
- I can identify the 4 poisons to innovation and their cure.
- I can explain and demonstrate the secret ingredient of innovation.
- I can explain the importance of engineering and problem-solving to our world.
- I can explain the elements and principles of design in architecture (form, texture, balance, proportion, unity)
- I can identify draw the different drawing views: elevation, plan, section and detailed views and explain how they are used.
- I can identify basic architectural symbols used on drawings and blueprints.
- I can demonstrate the correct use of the following tools: ruler, architect scale, compass, T-square, 3D design software.
- I can give at least 3 examples of how architects use math.
- I can define the following terms: architect, proportion, balance, scale, constraint, form and function, survey, presentation drawings, survey drawings and working drawings.

## Materials Needed



(Having difficulty finding materials? Click [HERE](#) to view our school store)

- Approximately 40 sheets of regular weight (white) printer paper (Dream House activity)
- Scissors, clear tape, masking tape
- Pencil

- 24" T-square
  - Click [HERE](#) for example
  - Click [HERE](#) to learn how to make your own T-square
- 3 sheets of 24" x 36" drawing paper (blueprinting)

## Course Outline

### Thinking Like an Architect

- Lesson 1 – What's an Architect?
- Activity – Your favorite architect
- Lesson 2 – Tools of an Architect
- Lesson 3 – How to read an architect scale
- Activity – build your own architect scale
- Lesson 4 – Drawing, sketching and blueprints
- Lesson 5 – How to create a simple blueprint
- Activity – Create a simple blueprint
- Lesson 6 – Create a home blueprint
- Activity – Create a blueprint of your house
- Lesson 7 – Floor plans
- Lesson 8 – C.A.D.
- Activity – Dream house
- Activity – Dream house (model)

### Introduction to Architecture

- Lesson 1 -What is architecture?
- Activity - Your favorite architecture
- Lesson 2 – History of architecture
- Lesson 3 – Architecture and math
- Lesson 4 – Form and function

### BONUS COURSE - Thinking Like an Innovator

- “First day of class” welcome and course orientation
- Lesson 1 – The 6 steps of innovation (A tragedy at sea)
- Lesson 2 – What is a problem?
- Lesson 3 – What is an idea?
- Challenge activity – Brainstorming!
- Lesson 4 – How to create more ideas
- Lesson 5 – Brain Games!
- Challenge activity – Mental fitness
- Lesson 6 – 4 Poisons to innovators
- Lesson 7 – The secret ingredient
- Lesson 8 – How to make money!

- Challenge activity – Solo cup
- Lesson 9 – Woman Innovators