

E: Sustainable Materials

Content Area:	Generic Content Area
Course(s):	Generic Course, Level 1 Engineering Drawing
Time Period:	Generic Time Period
Length:	3 weeks
Status:	Published

Unit Introduction

In this unit, students will explore/learn about Sustainable Materials and how the trend is taking over the way we live and design in our built world.... Students will develop/edit/revise their house plans to include various "Green Materials or Methods" in the design and construction of the home/building.

Standards

9.3.12.AC.1	Use vocabulary, symbols and formulas common to architecture and construction.
9.3.12.AC.2	Use architecture and construction skills to create and manage a project.
9.3.12.AC.6	Read, interpret and use technical drawings, documents and specifications to plan a project.
9.3.12.AC-CST.7	Compare and contrast the building systems and components required for a construction project.
9.3.12.AC-CST.9	Safely use and maintain appropriate tools, machinery, equipment and resources to accomplish construction project goals.
9.3.12.AC-DES.1	Justify design solutions through the use of research documentation and analysis of data.
9.3.12.AC-DES.3	Describe the requirements of the integral systems that impact the design of buildings.
9.3.12.AC-DES.6	Apply the techniques and skills of modern drafting, design, engineering and construction to projects.
9.3.12.AC-DES.8	Apply standards, applications and restrictions pertaining to the selection and use of construction materials, components and assemblies in the project design.
12.9.3.ST.6	Demonstrate technical skills needed in a chosen STEM field.
12.9.3.ST-ET.3	Apply processes and concepts for the use of technological tools in STEM.
12.9.3.ST-ET.5	Apply the knowledge learned in STEM to solve problems.
12.9.3.ST-SM.2	Apply science and mathematics concepts to the development of plans, processes and projects that address real world problems.

Essential Questions

1. How does the world/societies/cultures/environments impact/influence Architecture past, present and future?
2. What is the role the "Design Process" in good Architecture?
3. What are the impacts of using sustainable materials/processes in design and construction?

4. How has or will Technology impact(ed) developments in Architectural Design and Construction?

Content / Skills

Textbooks:

Basic Technical Drawing - Spencer, Dygdon, Novak, 8th edition, 2004

Engineering Drawing & Design - D.A. Madsen, D.P. Madsen, 6th edition, 2017

Architectural Drafting & Design – A. Jefferis, D.A. Madsen, D.P. Madsen, 7th edition, 2017

Skills: See Below

• Layout	.
• Plotting Drawings to Scale	.
• math operations	.
• measurement	.
• mechanical drawing	.
• safety	.
• sketching	.
• teamwork	.
• using CAD	.
• visualization	.