

# Foundation/Site Plans

Content Area: **21st Century Life & Careers**  
Course(s): **Generic Course**  
Time Period: **Marking Period 3**  
Length: **4 Weeks**  
Status: **Published**

## Unit Introduction

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## Standards

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9.3.12.AC.1	Use vocabulary, symbols and formulas common to architecture and construction.
9.3.12.AC.6	Read, interpret and use technical drawings, documents and specifications to plan a 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.6	Apply the techniques and skills of modern drafting, design, engineering and construction to projects.
ARCH.9-12.9.4.12.B.(1).9	Develop technical drawings drafted by hand and computer-generated plans to design structures.
ARCH.9-12.9.4.12.B.(1).10	Demonstrate understanding of principles, conventions, standards, applications, and restrictions pertaining to the manufacture and use of construction materials, components, and assemblies, and incorporate this understanding into project design.
ARCH.9-12.9.4.12.B.(1).11	Apply basic organizational, spatial, structural, and constructional principles to the design of interior and exterior space so that design plans are effective.
ARCH.9-12.9.4.12.B.2	Demonstrate mathematics knowledge and skills required to pursue the full range of postsecondary education and career opportunities.
ARCH.9-12.9.4.12.B.7	Demonstrate use of the concepts, strategies, and systems for obtaining and conveying ideas and information to enhance communication.
ARCH.9-12.9.4.12.B.13	Apply active listening skills to obtain and clarify information.
ARCH.9-12.9.4.12.B.17	Use vocabulary and visual cues commonly used in design and construction to communicate successfully.
ARCH.9-12.9.4.12.B.18	Employ critical thinking skills (e.g., analyze, synthesize, and evaluate) independently and in teams to solve problems and make decisions.
ARCH.9-12.9.4.12.B.22	Create and implement project plans to accomplish realistic planning in design and construction situations, considering available resources and requirements of a project/problem.
ARCH.9-12.9.4.12.B.61	Demonstrate skills related to seeking and applying for employment in a desired job.
ARCH.9-12.9.4.12.B.62	Maintain a career portfolio to document knowledge, skills, and experience in a career field.
ARCH.9-12.9.4.12.B.74	Read, interpret, and use technical drawings, documents, and specifications to plan a project.
STEM.9-12.9.4.12.O.(1).1	Apply the concepts, processes, guiding principles, and standards of school mathematics to solve science, technology, engineering, and mathematics problems.

STEM.9-12.9.4.12.O.48	Employ teamwork skills to achieve collective goals and use team members' talents effectively.
STEM.9-12.9.4.12.O.51	Employ mentoring skills to assist others.
STEM.9-12.9.4.12.O.58	Maintain a career portfolio to document knowledge, skills, and experience in a career field.

## **Essential Questions**

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1. Why are the foundation plans and site plans so important to design and construction of the home?
2. What happens if there is a mistake in the layout/construction of the home's foundation?

## **Content / Skills**

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*Students will creatively design various floorplan layouts for a rancher style home as per the needs of the family and the rules of efficient and functional architecture.*

*Textbooks:*

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

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

*Skills: See Below*

- Layout
- math operations
- measurement
- Plotting Drawings to Scale
- sketching
- teamwork
- using CAD
- visualization