Unit 07: Electrical Plans

Content Area: **Science**
Course(s): **CAD Architect**
Time Period: **Semester 2**
Length: **2 weeks**
Status: **Published**

Standards

HS-ETS1-2	Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
HS-ETS1-3	Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
HS-ETS1-4	Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.

Enduring Understandings

- Providing different prospectives of a design helps the viewer conceptualize the final product and draws attention to sepearte but important details.
- Various details of a design may be implimented differently, depending on the purpose it serves.
- Various details of a final design may be excluded from a drawing, depending on the information the plan is meant to convey.

Essential Questions

- How are several different floor plans used together in architectural drawings?
- What sources are responsible for supplying residential homes with electricity and how do they differ?
- Why do specific spaces within a residential home have different power requirements?
- What electrical safety procedures and regulations exist within residential buildings?
- How can technical plans change for different parts of a structure?

Knowledge and Skills

- Students will be able to identify correct electrical symbols and illustrate the location of all electrical components in their design.
- Students will be able to apply electrical codes when placing electrical components and fixtures.
- Students will be able to provide visual representation displaying how different electrical components interact with each other.
- Students will be able to complete electrical plan for their floor plan designs.
- Students will be able to create an Electrical Key to accompany their Electrical Plan.
- Students will be able to test their knowlege by completing a quiz on residential electricity.

Assessments

https://docs.google.com/document/d/1wR7bQF-8AQoRrt0g4C3hKja0yjwDjC9_BiAmONWbTcI/edit

Modifications

https://docs.google.com/document/d/1ODqaPP69YkcFiyG72fIT8XsUIe3K1VSG7nxuc4CpCec/edit

Resources

- ElectricalPlans.ppt
- ElectricalSystems.ppt
- ElectricalCodeRequirements.doc
- ElectricalSymbols.doc
- ElectricalSymbols.pdf
- CreatingSplines.ppt
- CreatingElectricalkey.ppt
- Electrical Components Quiz