

B Unit 02: Plan/Design/Construct/Test

Content Area: **Science**
Course(s): **Robotics A**
Time Period: **Generic Time Period**
Length: **12**
Status: **Published**

Standards

SCI.9-12.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.
SCI.9-12.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.
SCI.9-12.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.

Enduring Understandings

- Available resources, time, budget, etc. are factors that must be considered when planning potential solutions for a problem.
- A successful design requires input from all parties responsible for fabrication, function, aesthetics, etc.
- Prototyping, building/coding practices, and material choices will contribute to the success of a design.
- Testing, adjusting, and redesigning are necessary steps to ensure a product is truly satisfying its intended purpose.

Essential Questions

- How can the constraints of a project be considered without harming the efficiency or quality of the product?
- What are the best practices and materials for the proposed solution?
- What are the teams expectations and standards that will determine if further testing and redesign need to be done?
- When can creating a resource library from project documentaiton be a valuable asset?

Resources

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- Weekly report
- Timeline check/update

- Teammember evaluation
- Documentation checkpoints
- Resource Library Contributions