

A Unit 05: VEX Challenge

Content Area: **Science**
Course(s): **Robotics A**
Time Period: **Marking Period 1**
Length: **3**
Status: **Published**

Standards

SCI.9-12.HS-ETS1-1	Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
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.
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-PS3-3	Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.

Enduring Understandings

- Establishing a strategy when approaching a problem that needs to be solved will help highlight key aspects and result in a better outcome.
- Comprehension of the constraints of a project is crucial for a favorable solution.

Essential Questions

1. How does strategy play a role in robot design?
2. Why is determining objectives and strategy important before design development?

Resources

- Unit Guide
- Paper
- Pencils
- Rulers
- Internet Access
- VEX Robotics Kit
- Computers with Autodesk Inventor

