A Unit 12: Testing and the Iteration Process

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.

Enduring Understandings

- A solution to a problem can not be deemed successful without proper testing within all potential environments/scenarios.
- The iteration process is necessary for making the most successful design possible.
- Eventually the iteration process comes to a point where effort is greater than reward and a complete redesign is necessary to continue to make progress.

Essential Questions

1. Did the game-play match your expectations (i.e. did the matches play out like you expected)?
2. What would you improve about your robot design?
3. What would you improve about the design process if you had to start over?
4. Were there things you wish you had spent more time on?

Resources

- Unit Guide
- Paper
- Pencils
- Rulers
- Internet Access
- Dictionaries

- VEX Robotics Kit
- Computers with Autodesk Inventor
- Storage containers
- Online Resources