

# A Unit 06: Object Manipulation

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

## Standards

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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

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- When developing a solution to a problem, often a the well planned and simplest solution is the most reliable.
- Collecting data that communicates the percentage of success on a design provides an objective viewpoint on how well the design is working.

## Essential Questions

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1. Why would you choose one type of a manipulator over another type?
2. How can your data from your test improve your redesign?

## Resources

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- Unit Guide
- Paper
- Pencils
- Rulers
- Internet Access
- Dictionaries
- VEX Robotics Kit
- Storage containers
- Online Resources

- Computer with Autodesk Inventor