A Unit 04: Intro to Autodesk Inventor

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

- Computer aided design software allows for an efficient and timely work flow, because of its flexability with editing, ability to preform calculations, and duplication/sharing capabilities.
- The use of mathimatical principles in CAD software allow for exact information to be specified within a design and are needed to create a technical drawing.
- Communicating proper information via a tecnical drawing requires accurate information to ensure the creation of the desired product.
- Information communicated on a technical drawing is conveyed through various annotations, each comprised of a specific procedure to guarantee clarity and cohesion.

Essential Questions

- Which items in the classroom require 3D modeling software in order to be designed and manufactured?
- Which types of engineers use CAD and how do they use it for their day to day job?
- Why do designers create virtual models?
- What is the benefit to designers of being able to animate an assembly?
- What would a designer use a rendered image of a design for?

Resources

- Unit Guide
- Internet Access
- VEX Robotics Kit

- Online Resources
- Computer with Autodesk Inventor