

Course Title:	Technology Education
Grade(s):	6th

Course Description
Students will receive an introduction to manufacturing, then develop and design a project using cloud-based CAD software (Onshape). Their designs will be brought to life through additive manufacturing using a 3D printer. Students will also explore the video production process, including pre-production (planning), production (filming/recording), and post-production (editing), using cloud-based software (WeVideo). This class meets every other day for a quarter, roughly 22 class periods. Each class period is 45 minutes.
Approved Curricular Materials/Textbook(s)
Cloud-based development through instruction, along with video tutorials (flipped classroom approach)

Unit Title	Unit Description (Include Unit Objectives)	Unit Pacing
Intro Day	Learning Target: - Students will receive an introduction to the class content for this quarter - Students will review safety information for emergency responses as needed - Students will login to computers, ensure Google Classroom is connected to course and student, and begin onshape.com account setup as needed	1 class
Unit 1: Manufacturing Introduction	Learning Target: - Students will learn the background on manufacturing and reshoring - Students will setup accounts for CAD software, adjust settings in onshape.com from imperial to metric measurement system - Students will be introduced to a CAD drawing 2D sketch on a plane	2 classes

Unit 2: CAD Introduction	Learning Target: - Students will understand a plane and selecting a surface for design - Students will design in 2 dimension (length + width), give shapes size (dimension), and extrude adding/subtracting depth or height - Students will create a drawing displaying orthographic and isometric views, including labels, and dimensions for quality control to confirm prior to manufacturing	2 classes
Unit 3: CAD Maze Design	Learning Target: - Students will design a MAZE on our CAD software for manufacturing - Students will follow multi-step procedures to learn the design process - Students will design by selecting a plane, draw a 2D shape, dimension (size) the shape, and add depth or height (extrude). This introductory process will begin our designs.	4-5 classes
Unit 4: CAD Drawing & Submission	Learning Target: - Students will create a finished design plan for manufacturing - Students will create an orthographic and isometric drawing with dimensions and labels	1 class
Unit 5: Video Productions Intro	Learning Target: - Students will connect to wevideo.com through their Google accounts - Students will be introduced and review the basics of video editing through practice memes - Students will add text, learn to split clip or cut, and add titles and music	2 classes
Unit 6: Movie Trailer	Learning Target: - Students will apply basic video editing skills to create a shortened movie trailer called a teaser trailer - Students will learn to cut a longer video and shorten it based on video length constraints - Students will add text, learn to split clip or cut, and add titles and music	2-3 classes
Unit 7: Framing a Video Production	Learning Target: Students will be introduced to film framing terms to enhance production (filming)	2 classes

	Students will understand framing terms for arranging a video production with purpose for effectively connecting to an audience	
Unit 8: Introduction to Pre-Production / Planning	Learning Target: - Students will apply terms to plan a video production - Students will be introduced to a two column script and a storyboard - Students will review finished products as a class by viewing the video productions	4 classes