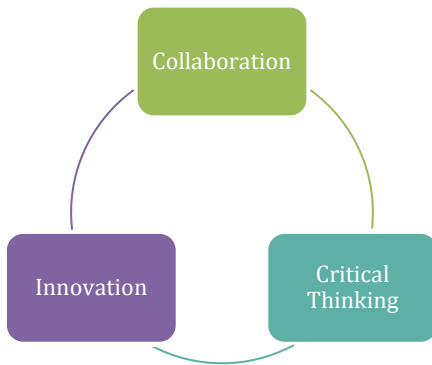


STEM School Chattanooga

11th Grade PBL Unit Plan Template

Unit Quarter: 3rd

Title: 3D Printed Home Design Competition



Learning Target Topics

Collaboration: Working with other people on a project or problem to achieve a shared goal.

Creative Thinking: Accessing, using, and applying information and knowledge.

Innovation: Using creative thinking to construct something new and valuable.

Grade Level	11 th Grade	Unit Length	9 Weeks
Industry Partner	<ul style="list-style-type: none"> Chris Weller, Branch Technology 		
Unit Overview	STEM student teams will design and fabricate a prototype of a small home that reimagines home architecture using Branch Technology's Cellular Fabrication technology. Home design concepts that were once only possible using expensive or time-intensive methods will soon be possible using less costly methods of construction being pioneered by rapidly emerging 3D printing technology. For the school partner, the focus is on the creation of a novel home design that takes advantage of 3D printing technology. For the STEM School, the focus is on the innovation skills demonstrated by the student teams.		
Unit Essential Issue	<ul style="list-style-type: none"> Project: <i>Design and fabricate a prototype of a small home using 3D printing technology.</i> 		
Kick Off Event	Kick Off: January 12th Chris Weller will explain how Branch Technology is using industry-leading 3D printing technology to revolutionize construction. He will discuss principles of architecture and design and demonstrate exercises to avoid standard thinking. He will review the project requirements and rules for the home design competition. The students will receive a tour of Branch Technology's facility and 3D printing capabilities.		
Culminating Events	Presentation Day: TBD (March 14th-18th) The student teams will present their prototype home created using 3D printing technology to the project sponsors. The project sponsors will evaluate the designs and provide constructive feedback to the teams.		
Common Assessment	Students will be scored using the Association of American Colleges and Universities rubric for Creative Thinking Skills. All 4's will equate to Advanced, scores of 3 and 4 will equate to Proficient, and any scores below a 3 will equate to Below Basic. Items that will be used to score student work: <ul style="list-style-type: none"> Assignments (Plans, Weekly Prototype Reports, Design Process Work Products, etc.) Presentation Functioning Prototype 		