



Team-Based Challenge – Community Model

PROJECT OVERVIEW	
Team-Based Challenge Title	Circuit Lab
Source	Science Olympiad (soinc.org)
Industry Partner	Institute of Electrical and Electronics Engineers (IEEE)
Endorsement Area	Manufacturing, Engineering, Technology, and Trades
Problem to Investigate/Scope	Teams will show an understanding of electricity and magnets by answering a series of questions and building an electromagnet with standard materials.
Project Outcomes	Teams will solve problems and complete tasks on electricity and magnetism.

PROJECT OUTLINE

Stage:	Topics/Events:	Timeline:	Deliverables:
Preparation	<ul style="list-style-type: none"> - Set Expectations - Skill Development 	Week 1-2	<p>Complete the MY SO Circuits Lesson plan (you must fill out the form first) and watch the circuit videos on the Science Olympiad TV YouTube channel.</p> <p>Watch the STEM Session on Circuits to better understand college and career pathways in electricity and electrical engineering.</p>
Project Practice	<ul style="list-style-type: none"> - Practice using gained knowledge to answer general questions about circuits and electricity 	Weeks 3-5	<p>Use the practice test posted here to assess understanding and address gaps in understanding and knowledge.</p> <p>Take notes on gaps of understanding and use various resources, including the IEEE.org website.</p>
Project Practice, extended	<ul style="list-style-type: none"> - Build basic to complex circuits on interactive website 	Weeks 6-8	<p>Using the interactive lab on the University of Colorado - Boulder website, challenge team members to build circuits that use the smallest amount of energy for maximum output and/or demonstrate an understanding of complex circuits.</p>
Project Demonstration	<ul style="list-style-type: none"> - Build successful circuit for competition 	Weeks 8-10	<p>Pairs of students will build a circuit using wires, batteries, resistors, 2 LEDs in which both of the LED lights are equally bright. Teams are assessed on their success on completing the challenge and ability to explain their circuit.</p>

This resource was created by [Education Systems Center at Northern Illinois University](#).

The Illinois Work-Based Learning Innovation Network (I-WIN) is designed to help employers, educators, and students leverage innovative models for scaling high-quality work-based learning opportunities in school districts and community colleges across the State. This network explores ways to create equitable opportunities for students through both in-person and virtual learning. For more information on I-WIN and additional work-based learning resources, visit edsystemsniu.org/i-win/.

To access a resource bank of Team-Based Challenge templates, visit edsystemsniu.org/i-win-resources/.