

Columbia Water & Light Educational Programs

Please note: Most programs can be customized to fit learning goals, age levels, time constraints, etc.
Contact Eric Hempel (573) 441-5513, eric.hempel@como.gov with any questions or to schedule a program.

Title	Primary Subject	Description	Grade	Type	Duration	Hands on
Danger Town	Electrical Safety	This engaging presentation and display shows where potential dangers in the electrical system are and how we can avoid getting hurt.	Elem and up	Activity	30 min	y
Mini Motor	General Electricity	This activity and presentation demonstrates how magnets, motion, coils of wire and electricity interact. Students will construct their very own motor using every day materials.	MS and up	Activity	45 min	y
Squishy Circuits	General Electricity	An introduction to electricity and circuits, this hands on activity allows students to explore electricity safely and learn about the concept of a circuit, parallel and series wiring, and how to use a multi-meter, .	4th grade and up	Activity	45 min	y
Stokes City	General Electricity	Students explore the electrical usage of a home by measuring the electrical usage of appliances and how it is affected by efficiency. Paired with the Energy Bike and a small solar PV array, this activity connects the concepts of energy usage, generation, and efficiency.	MS and up	Activity	3 hrs	y
Bottle Battle	General Energy	Bottle Battle is a three day program which has been used at Battle High School in the physics curriculum. The project explores heat transfer processes of conduction, convection and radiation. Students, working within a scenario of a power outage, construct insulating structures from prepared materials for water bottles. On testing day teams compete head to head and measure temperature drop over time. W&L provides thermal images for each team to identify where thermal energy loss is taking place. The winning team minimizes thermal energy loss and cost of construction.	HS	Activity	3 days	y
Energy Bike: Pedal Power	General Energy	The Energy Bike never ceases to draw attention to just how much it takes to light up our world. Students of all ages can experience an energy transformation, from lunch to electricity. They also feel the benefit of efficiency using LED bulbs rather than incandescent.	MS and up	Display	Varies	y
Energy Houses	General Energy	The kit comes with houses made from different precut materials (sheetrock, foam board insulation, foil faced foam, cardboard, plexiglass). Students can test the house material's affect on conduction, convection, and radiation of thermal energy during one class period, or over several days.	Elem and up	Activity	45 min or 3 class periods	y

Title	Primary Subject	Description	Grade	Type	Duration	Hands on
House of Pressure	Home Performance	This 2 hour, hands-on program explains how air pressure affects home comfort levels and energy efficiency. Students will learn about air pressure, duct work, infrared cameras and will use the same tools our home performance experts use to find and measure air leaks and practice some air sealing techniques themselves.	MS and up	Activity	1 1/2 hrs	y
Columbia's Renewable Energy	Renewable Energy	This presentation can be tailored to the age of the audience and highlights the current state of renewable energy in Columbia Water & Light's energy portfolio. This presentation pairs well with a tour of one of our local energy production facilities. Facility tour group sizes are limited.	All	Presentation	30-40 min	n
Energy Choices The story of Heat	Resource Conservation	Energy Choices is one of water & Light's longstanding education programs created by Tim Pohlman and Jay Hasheider years ago. W&L has been presenting it to local middle schools ever since. Newly revised to include the ever popular Infrared Camera and Energy Bike, students interact with thermal energy science principles of transfer, insulation, and Infrared. On day two, students do a take-home lab after practicing it in the classroom demonstration and calculate the actual cost for hot water in their showers at	MS and up	school program	50 min program, 50 min in-class lab, take home lab kit	y
Gatorade Solar Cell	Solar	Another energy transformations example, using copper plates, gatorade (or any electrolyte), and a light source, students will build functioning solar cells and learn to measure current!	Elem and up	Activity	45 min	y
Hands-on Solar Panels	Solar	Students explore basic concepts of electricity: voltage, series, parallel, current, etc. using individual solar panel kits.	Elem and up	Activity	1hr	y
Water Town	Water system	The master of it all, Tim Pohlman has created a functioning, small scale model of a neighborhood to illustrate water infrastructure, efficiency, and safety.	Elem and up	Presentation	45 min	n
Aquifer to Tap	Water system	This presentation uses our local history to highlight the importance of water. Aquifer to Tap explains where the City of Columbia's water comes from, how it is accessed, treated and distributed. Can be arranged in conjunction with tours of the water plant.	Elem and up	Presentation	45 min	n