

Kids Love Tech School Workshops 2017-2018



Ontario Science and Technology Curriculum Connections

Curriculum Strand	Description	Grade
The Kindergarten Program	Play-based learning and inquiry	Kindergarten
Understanding Structures and Materials	Materials, objects and every-day structures	Grade 1
Understanding Structures and Materials	Movement	Grade 2
Understanding Structures and Materials	Strong and stable structures	Grade 3
Understanding Matter and Energy	Forces causing movement	Grade 4
Understanding Structures and Materials	Pulleys and gears	Grade 4
Understanding Structures and Materials	Forces acting on structures and mechanisms	Grade 5
Understanding Structures and Materials	Flight	Grade 6
Understanding Matter and Energy	Electricity and Electrical Devices	Grade 6
Understanding Structures and Materials	Form and function	Grade 7
Understanding Structures and Materials	Systems in action	Grade 8

Workshops List

Mentored Construction Play

Teachers will select from a list of themes and building plans for their classroom. We will be using simple step by step building plans and discuss the builds using grade appropriate vocabulary. Themes: On the Farm, Cars and Trucks, Robots, Dinosaurs.

Gears and Gear Trains

Build gears of different sizes and use axles and a crank to create a gear train and learn how gears are being used in machines to change the direction of movement and to create mechanical advantage.

Bridges and Structures

Learn about structures and forces acting on bridges and explore how different shapes play a role in engineering design. Students will follow a building plan to construct an arch bridge, truss bridge, beam bridge, cable stay bridge and suspension bridge

Pulleys and Simple Machines

Build a pulley system with a fixed and moveable pulley and experience the mechanical advantage of simple machines. Students will construct in teams using Rokenbok snap blocks following a building plan.

Build a Crane *

Experiment with forces, pulleys and gears while building a crane lift. We will be using gears, pulleys, and a motor.

Electricity and Energy *

Discover how chemical energy is transformed into electrical energy; explore conductors and insulators and build an electronic circuit.

Electricity and Morse Code *

Experiment with electricity and experience the history of electricity while sending each other Morse code messages using electronic circuits acting as transmitters and receivers.

Systems in Action **

Students will follow a construction plan to build a sophisticated system including motors. Contact us to choose a project.

Systems in Action with Programming ***

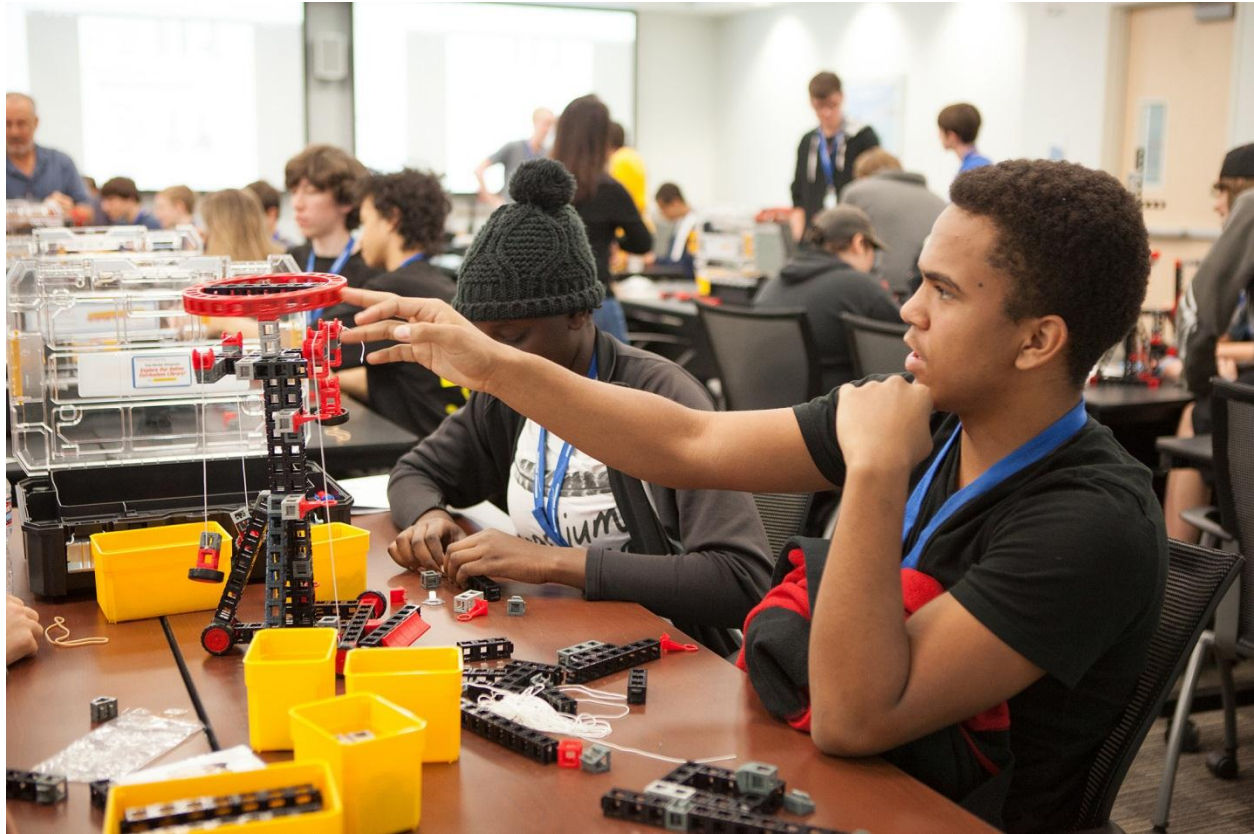
Students will follow a construction plan to build a sophisticated system including motors. Contact us to choose a project. This workshop includes an introduction to sensors and coding with Arduino.

Team Building with Engineering: Mechanical Arm

Build a mechanical arm that can be used to grab various objects. After building the arm, students will participate in group competitions and games.

Team Building with Engineering: Airplane Factory

In this exciting Airplane Factory students develop problem solving and communication skills while using creative thinking to plan, test, retest and modify the airplane assembly line. Curriculum connection: The Technological Problem-Solving Skills Continuum.



Workshop	K	1	2	3	4	5	6	7	8
Mentored Construction Play	x	x	x				x	x	x
Gears and Gear Trains		x	x	x	x	x			
Bridges and Structures				x	x	x			
Pulleys				x	x	x			
Build a Crane **					x	x	x		
Communicating with Morse Code *						x	x		
Electricity and Energy *						x	x		
Systems in Action **							x	x	x
Systems in Action ***							x	x	x
Team Building : Mechanical Arm					x	x	x		
Team Building: Communicating with Morse Code*					x	x	x		
Team Building : Airplane Factory					x	x	x		

Workshop Materials

Kids Love Tech workshops use Mobile STEM Labs from Rokenbok Education in combination with products developed specifically for our workshops and electronic circuits. Workshops that include electronic circuits are marked with a (*). Workshops that include motors are marked with (**) and workshops that include an introduction to robotics with an Arduino programmed microcontroller are marked with (***)

Projects and experiments with Electronic Circuits	*		
Projects using Motors	*	*	
Building projects and Arduino programmed microcontroller	*	*	*

Booking

Please contact us to schedule a workshop that meets your classroom needs. Workshop prices depend on workshop type, class size and location. Discounts are available for schools ordering multiple consecutive workshops.

Please have the following information ready when contacting us: school name, address, number of classes, grades, class sizes.

KIDS LOVE TECH

Phone: 416.876.5615

info@kidslovetech.com

www.kidslovetech.com