IRIS
Institute of Robotics & Intelligent Systems

"Encourage students to be STEM leaders using the latest educational Robotics platform"

A FRESH APPROACH TO EDUCATION

School Workshop

Institute of Robotics & Intelligent Systems

About Us…….

Institute of Robotics & Intelligent Systems Inc. provide services for schools such as student workshops, after school classes and giving coaching and guidance to the school robotics club. Under our website http://www.iriscanada.com, we also provide summer camps, birthday workshops and weekend workshops.

We have been working with Lego & Vernier Education Kit to bring STEM Education to schools in the GTA. All our instructors are trained to teach LEGO & Vernier Education kits with high standards.

LEGO® Education & Vernier have been creating solutions for pre-schools and classrooms for almost 30 years. The skills and techniques of **LEGO Systems for learning** meets many of the needs of global learners. LEGO Education solutions enable students to be active, creative and collaborative solution-seekers. In this way, their instinct to learn is stimulated, and they are motivated to apply their learning in new contexts, which means that they embark on a self-directed learning process.

LEGO Smart students use LEGO bricks and digital tools to solve problems creatively and to excel at working with others and thinking critically. By working in this way, they develop their understanding and ability to retain knowledge of key curriculum concepts, and therefore, do well in school and on high-stakes tests.

Planning School Visit.

Over the next few pages you'll see details of the various workshops we can offer you. There are a number of ways we can organize, a visit to your school. Every school is different and each of our workshop packages can be tailored to meet your needs.

We can run multiple workshops over the course of one or more days, so that every class receives the opportunity to participate or we can run longer sessions for weeks or months.

Our Workshop Requirements

In order to make our workshops run as smoothly as possible we do have a number of recommendations and requirements.

Class Sizes:

The ideal class size for each workshop is 20 children or less. While we can accommodate more, the students will get more from the workshops with classes of these sizes. Our maximum class size is 24 students; for larger classes we recommend splitting the class into two separate workshops or running longer workshops.

Location:

Ideally, we will be located in one room for the duration of the workshops; students will come from their classes to us to participate in the workshop. This way we can set the room up for the duration of the workshops and save on time between workshops. Projectors/whiteboards would be a bonus (but not a necessity), as we do have slide shows/demos we can show the students. For furniture, we would require enough tables for students to work comfortably at our workshops, but for longer workshops having them as an option would be recommended.

Booking

For further information on what we can do for you feel free to contact us at info@iriscanada.com or by phone at Toronto (**416)-619-5229.**

Our Workshops…….

We offer a range of in-school workshops. Our qualified instructors will come to your school, with lots of LEGO in hand, to run some fun-packed workshops for your students,

Grade 1, 2 & 3.

Our WeDo™ (Junior Robotics) workshops are suitable for grade 1 to 3.

WeDo® Junior Robotics is perfect for introducing robotics to young children. It encourages playful learning where children build fun LEGO models with motors and sensors then connect them to a computer to program behaviour.

Our WeDo workshops enable students to learn, construct and use the motion and tilt sensors along with the drag and drop software to bring their models to life.

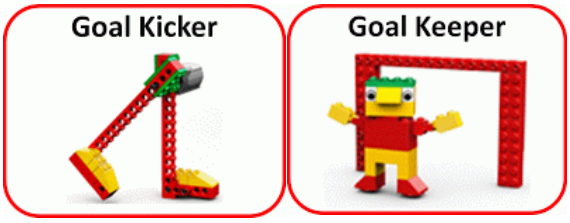
Skills Covered

- Programming
- Designing
- Mathematics
- Language
- Problem Solving

Below are some examples of the workshops we offer; we can of course customize each workshop to your school's needs...

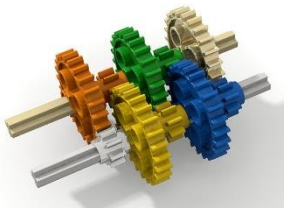
Penalty Shoot out

Children build kickers & keepers and learn about sensors, motions, calculating distances, predictions and have a penalty shoot-out competitions.



Spinning Top

Children build a motorized spinning top, using a sensor to control the motor and learn how gearing can increase and decrease the speed. They also learn about programming loops and timings.



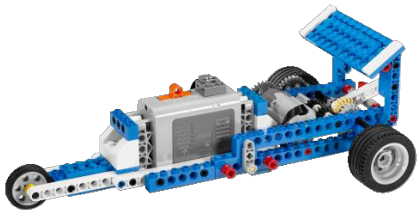
Grade 3, 4, 5 & 6

Simple & Powered Machine workshops are suitable for grade 3 to 6.

Our workshops help the students enhance their understanding of how forces can affect motion and explain the concepts of energy. Students build complex mechanisms and use them to make accurate observations, measurements & records and even design their own solutions.

Power Car

Children build a power car and investigate its effects of gear ratio, friction and wheel diameter. Children will predict and measure their car speed and alter its wheel size and gear ratio to see the effects they have.



Land Yacht

Children build a land yacht and learn how the surface area of the sails will affect and how the yacht travels. Children will calculate surface areas and work out the optimum.

Grade 5, 6, 7 & 8

Our Mindstorms EV3 workshops are suitable for grade 5 to 8.

Lego© Mindstorms® enable students to discover Science, Technology, Engineering and Mathematics in a fun, engaging and hands-on way. Combining LEGO building with software and curriculum activities allows students to design, program and control robots. Students can build robots and use software to plan, test and modify sequences of instructions from a variety of real life robotic behaviours.

Robotic Car Course Challenge

Children build a motorized car and will learn about measuring rotations, finding circumferences and plotting graphs. They will then program their car to complete one of our challenges.

Inspection Challenge

Children will build a motorized vehicle and with the aid of sensors, software will store the data of movement of the vehicle in order to obtain measurements.

Grade 5, 6, 7 & 8

Teaching Science with Technology

Vernier puts easy-to-use data loggers, sensors, experiments and graphing/analysis software into the hands of students, helping educators to develop the next generation of scientists and engineers.

Hands-on Science using Vernier technology, get students excited about Science and deepens their understanding of complex concepts. It gives students the tools to analyze data and think like real scientists.

Stainless Steel Temperature Probe

The Stainless Steel Temperature Probe is a rugged, general-purpose temperature sensor that can be used in organic liquids, salt solutions, acids, and bases. Use it as you would use a thermometer for experiments in Chemistry, Physics, Biology, Earth science and Environmental Science.

pH Sensor

Use the pH Sensor just as a traditional pH meter with the additional advantages of automated data collection, graphing, and data analysis. Typical activities using our pH sensor includes:

- Acid-base titrations
- Studies of household acids and bases
- Monitoring pH changes during chemical reactions or in aquariums, as a result of photosynthesis

Vernier
VERNIER SOFTWARE & TECHNOLOGY

IRIS

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