BUILDING BLOCK STUDIO

SCHOOL PROGRAMS GUIDE

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BUILDING BLOCK STUDIO

2/702 Sandgate Road
CLAYFIELD, QLD, 4011
(07) 3869 0885
http://www.buildingblockstudio.com

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Introduction

Building Block Studio is a modern learning activity centre which focuses on **STEM** topics such as **Coding**, **Robotics**, **Electronics, 3D Design** as well as engineering concepts conducted through LEGO. We provide an environment which fosters students with a passion for technology and engineering, where they can collaborate and share their knowledge, experiences, and ideas. We have successfully coached and mentored several teams in the F.I.R.S.T LEGO League Robotics competition since 2016. We have also successfully delivered our coding, robotics, electronics and 3D design workshops to many groups with a focus on quality over quantity. Here is some of our great feedback:

> *"… he looks forward to going every Saturday! Thank you for creating an amazing space for inquisitive minds".* BY Allison (mum of 2)

> *"Thank you for the time and effort you put into helping us with the robots. It was really fun working with you. Hopefully I can be in your team again next year"* BY Fin (12yo robotics student)

We would love to become a trusted partner with you and your school so that we may work together in educating your students about technology. We have included in this pack a number of programs that we can offer.

The benefit to your school are:

- The school will have access to industry professional knowledge through value-added enrichment programs. without increasing the workload of school staff;
- Many of our programs and workshops align to ACARA;
- We have all appropriate insurances and all staff have Working with Children Blue Cards
- We can provide our services onsite at our business premises as an excursion, or alternatively on location at your school as an incursion.
- We can provide professional development for teachers from an experienced industry professional.

While we have attached a sample of what we can do here, please feel free to drop by our studio or give us a call to discuss how we can work together further.

Building Block Studio is owned and operated by a local husband and wife team. Daniel and Rebecca Pollard. Daniel has been working as a professional software engineer for over 18 years, has a background in electronics and holds a Master's degree in IT (systems development). Rebecca has a background in accounting and has a passion for educating children.

Thank you very much for your time,
Daniel and Rebecca Pollard

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Coding

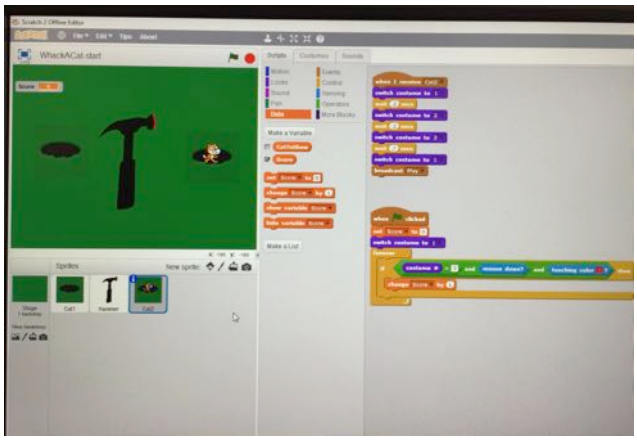
1) Scratch 2.0

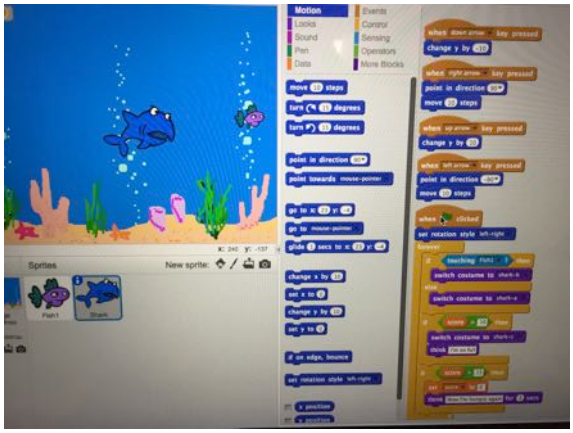
Scratch 2.0 is a visual programming tool. At the beginning, we introduce students to the vocabulary of Scratch coding, words like sprites, scripts, backdrops and costumes. We move on to a simple program that make use of the interface.

We have found that having two characters tell each other a joke provides a great introduction. This requires the student to understand the sequencing of code as well as the user interface interaction.

From here we move onto some simple games that continue to explore the different coding blocks that can be used to control sprites and the associated animation that forms a game. The games we build will include concepts for loops, decision branching, sequencing events and responding to user input.

Regular workshops enable us to continue to build on this approach until we find ourselves discussing Cartesian planes (X – Y co-ordinates) and broadcasting messages between sprites. Further concepts such as lists, complex comparison operators and sensing blocks are left for older or more experienced students. Scratch is a very powerful tool that can bring enjoyment to even seasoned programmers.





ACARA Links

Primary school

* Year 2: ACTDIP004
* Years 3 and 4: ACTDIP010
* Years 5 and 6: ACTDIP020 and ACTDIP019

High School:

* Years 7 and 8: ACTDIP029 and ACTDIP030

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- We allow 1 hour and 30 minutes for our Scratch Coding program
- Minimum daily rate: $850 (allows up to 75 students)
- Additional Students: $11 each
- Maximum number of students per session: 30 (working in groups of two)
- We are happy to provide multiple sessions of this program per day
- Building Block Studio provide the use of their laptop computers
- **Price excludes GST**
- #An extra fee may be incurred depending on travelling distance to your school

What can we do for you?

We can run workshops for students in our studio where we are able to cater to beginners right through to advanced coders. Alternatively, we can work at your school computer lab to help facilitate coding classes and coding clubs as well as provide a professional development program for teachers eager to learn Scratch coding!

We can provide 'one off' workshops as well as a multi-week program which we can run over a number of consecutive weeks throughout a school term. For further information, please contact us. We will always respond within a day.

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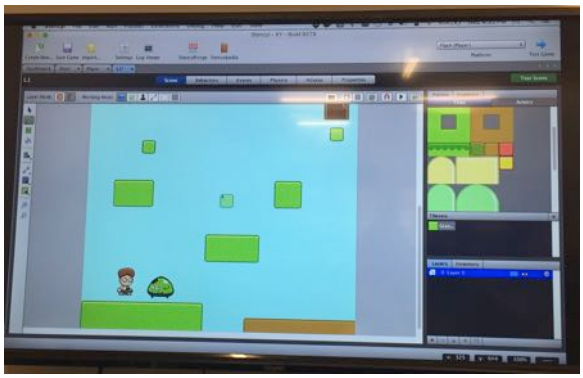
2) 2D Game Making

In this workshop, students learn the basic skills necessary to build, design and code their very own 2D Game. Learn how to make Platformer style games like 'Super Mario Bros" or Arcade style games like "PacMan".

This workshop can be tailored for any year level. Lessons can be structured so that some or most of the game functionality is pre-built and that some/most of the behaviours of the actors (ie: characters in the game) will also be mostly complete. This will allow the students to enjoy the satisfaction of designing their own levels.

Students will need to modify certain elements of the code in their game, for example; how high their actor will jump and how fast their actor will move. This is a very rewarding workshop for all computer and gaming enthusiasts.



ACARA Links

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- We allow 1 hour 30 minutes for this program (creation, testing and sharing)
- Minimum daily rate: $850 (allows up to 75 students)
- Additional Students: $11 each
- Maximum number of students per session: 30 (working in groups of two)
- We are happy to provide multiple sessions of this program per day
- Building Block Studio provide the use of their laptop computers
- **Price excludes GST**
- #An extra fee may be incurred depending on travelling distance to your school

We can provide 'one off' 2D Game Making workshops as well as a multi-week program which we can run over a number of consecutive weeks throughout a school term. For further information, please contact us. We will always respond within a day.

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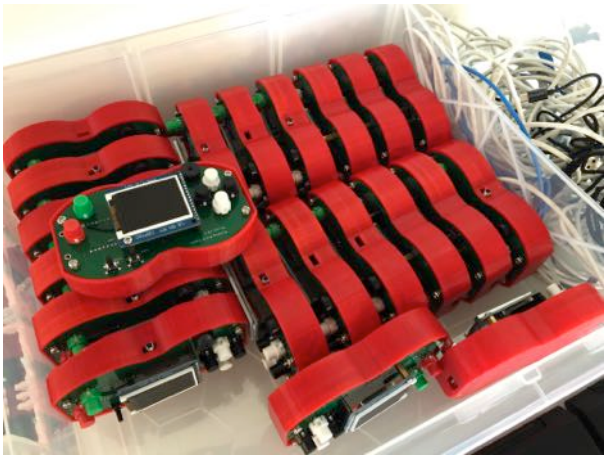
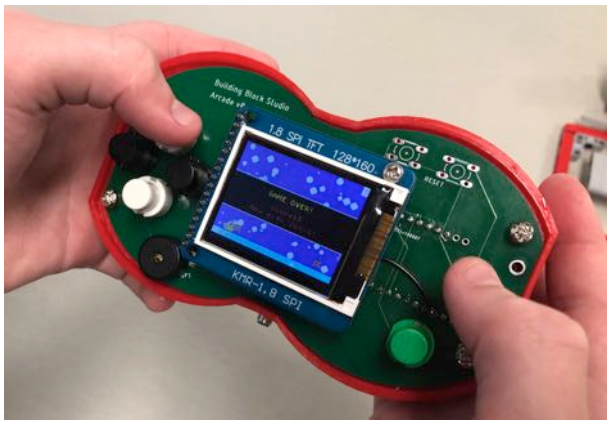
3) Arcade Game Coding

Students are introduced to the basic concepts of computer science in this exciting program. They will develop computational thinking and game logic skills to code a 2D arcade style game. Students will enjoy designing their own actors and testing their game on a real handheld controller.





ACARA Links

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High School:

* Years 7 and 8: ACTDIP029 and ACTDIP030

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4) Web Development

We teach students the basic process of how a web browser and web server work together to deliver HTML. We show students the basic tags that make up HTML and build out our own sites from some templates.

We then progress to showing how CSS is the language which describes how the HTML should look.

Finally, we show students how JavaScript can be used to manipulate the user interface. We don't cover JavaScript coding in a huge amount of detail and look to leverage a very common library called JQuery to help us perform some simple animations on our pages.

What can we do for you?

We can run workshops for students in our studio where we are able to beginners right through to advanced coders. Alternatively, we can work at your school computer lab to help facilitate coding classes / clubs.

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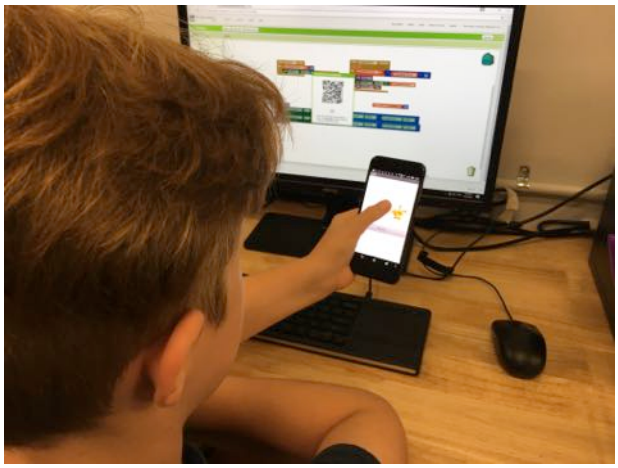
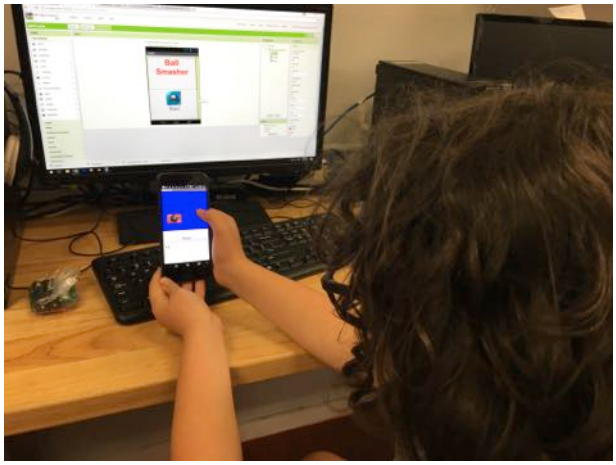
5) Mobile App Development with App Inventor

Using MIT's App Inventor visual programming tool makes it possible for students to be able to build a real app that can be run on an Android smartphone.

Students familiar with Scratch have no problem picking up the block based programming interface. We first show them the screen designer which lets them build out the user interface of the application, then we move onto the code which connects to the user interface. We like to start with a simple magic eight ball application, where students can shake the phone to receive some wisdom from the app.





What can we do for you?

We can run workshops for students in our studio where we can cater to beginners right through to advanced coders. Alternatively, we can work at your school computer lab to help facilitate coding classes / clubs.

We can provide a limited number of devices (approx 10), which will allow the students to be able to install and run the apps created by the students.

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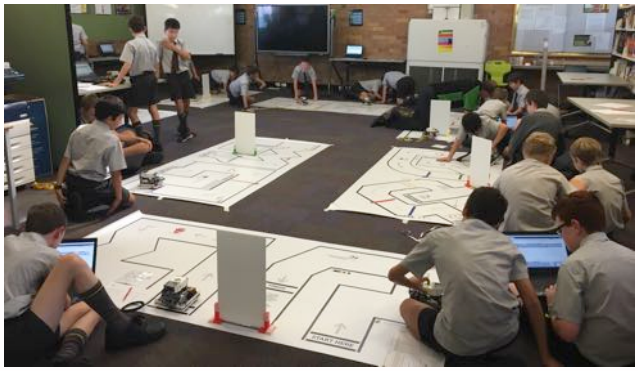
Robotics

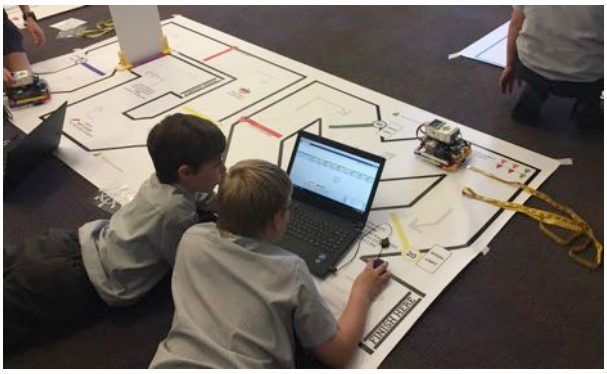
Building Block Studio has a number of different robots that we can use for student and teacher workshops:

1) LEGO EV3 Mindstorms

Our EV3 robotics program provides a hands-on interactive experience in which we demonstrate to students that robotics can be fun and engaging for everyone.

Working in groups of two, students learn the step-by-step skills necessary to program these robots by using simple 'drag and drop' blocks of code to navigate a flat obstacle course. Completing tasks such as: move forward, turn left/right, go backwards, play a sound, stop or flash the robot lights. Students quickly learn the importance of correctly sequencing their code while being guided by experienced mentors.





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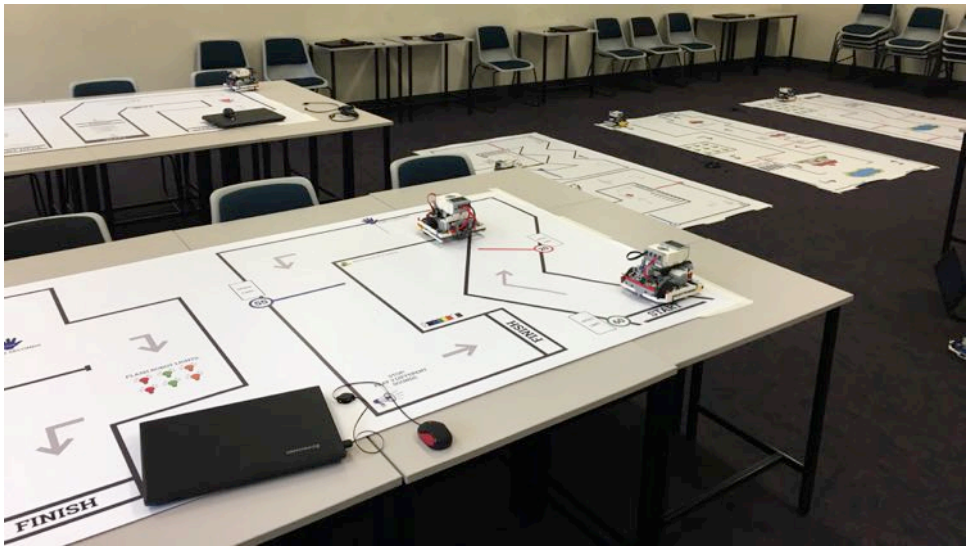

Using EV3 robots we are able to provide the following program for your school:

- 1 hour and 30 minutes duration
- students learn how the coding environment for EV3 robots work
- program an EV3 to follow simple instructions to navigate a clearly directed obstacle course path (complete if time permits)

- Minimum daily rate: $850 (allows up to 75 students)
- Additional Students: $11 each
- Maximum number of students per session: 28 (working in groups of two)
- We are happy to provide multiple sessions of this program per day
- Building Block Studio provide the use of their laptop computers
- **Prices excludes GST**
- #An extra fee may be incurred depending on travelling distance to/from your school.

We can provide 'one off' robotics workshops as well as a multi-week program which we can run over a number of consecutive weeks throughout a school term. For further information, please contact us. We will always respond within one business day.

Email: info@buildingblockstudio.com
Phone: 3869 088

ACARA Links

Primary school:

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High School:

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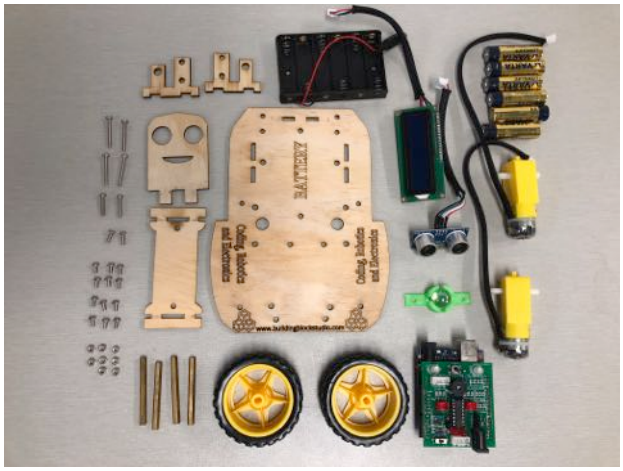
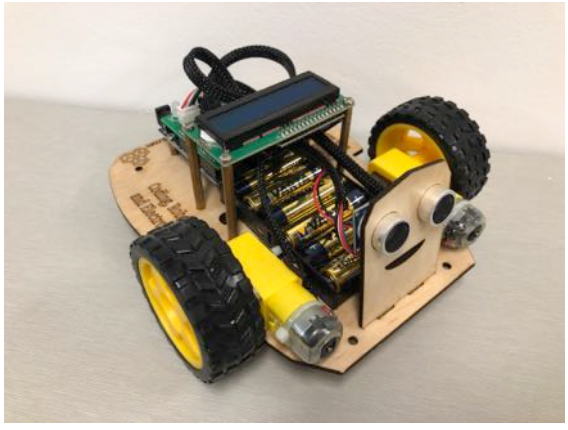
2) Robot Assembly and Coding – Arduino based custom robot

Building Block Studio has developed a small introductory custom robot which students can build, code and keep as part of their experience. Students will follow simple instructions to assemble their robot with the necessary components: motors, LCD screen, battery, wheels, ultrasonic sensor, Arduino board and BBS robot circuit board as well as cables, nuts, bolts and risers. This will take approximately 45 minutes to complete.

For the remainder of the time students will learn how to code their robot using our own extended version of MakeBlock which uses visual coding blocks for simplicity. Students will learn how to write code for an ultrasonic sensor so that the robot can stop within a certain distance from an obstacle. They will learn how to write code so that text will appear of the LCD screen. And, they will write code so that their robot can drive forward, left, right and backwards.

This unique workshop gives students the option to keep what they have built and coded. This can encourage them to continue coding their robot at home and is very powerful at keeping the students engaged.





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Using the BBS-StudioBot we are able to provide the following program for your school:

  - 1 hour and 30 minutes duration
  - Construction of robot
  - coding of robot,

- Minimum daily rate: $850 (allows up to 75 students)
- Additional students: $11 each
- Maximum number of students per session: 30 (working in groups of two)
- We are happy to provide multiple sessions of this program per day
- Building Block Studio provide the use of their laptop computers
- WITH THE OPTION OF ROBOT PURCHASE.
- #An extra fee may be incurred depending on travelling distance to/from your school.

We are more than happy to discuss a discounted term based price if you require for regular sessions. Additionally, if you would like a cost to purchase the robots for your students please contact us for a price.

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High School

* Years 7 and 8: ACTDIP029 and ACTDIP030

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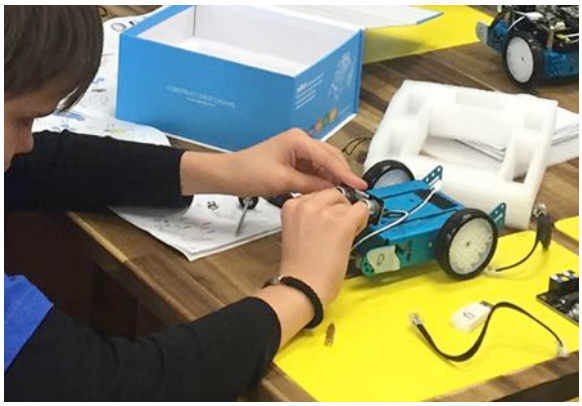
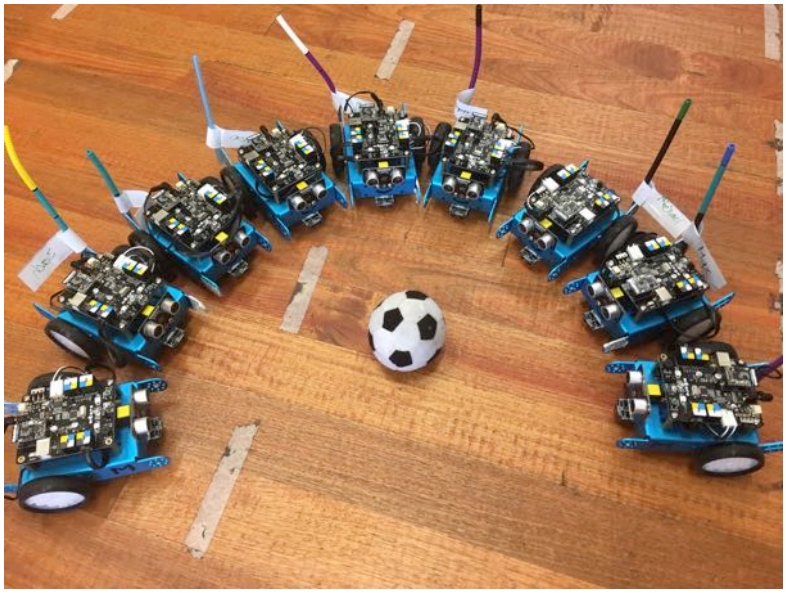
3) Build an mBot – Arduino based robot

Our MakeBlock mBot's provide students with the unique opportunity to build and code a small robot. Working in pairs the students use the provided screwdrivers to assemble the robot sensors and mainboard. Students connect up the wires and plug the Arduino into a computer for coding. The duration of this takes approximately 35 minutes.

Then using a variation of Scratch (MakeBlock) the students will code the robot to follow a series of keypresses on the keyboard; forward, backwards, left and right. This takes approximately 10 minutes to allow testing. The session is finished off with a fun activity: playing a game of robot soccer for approximately 15 minutes.

Students are required to pack up their robot in the last 5-10 minutes of the session to allow for easy transition for incoming groups.





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Using mBot robots we are able to provide the following program for your school:

  - 1.5 hour duration
  - Construction of robot and simple coding of robot,
  - Play a game of robot soccer
- Minimum daily rate: $850 (allows up to 75 students)
- Additional students: $11 each
- Maximum number of students per session: 28 (working in groups of two)
- We are happy to provide multiple sessions of this program per day
- Building Block Studio provide the use of their laptop computers
- **Prices excludes GST**
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We are more than happy to discuss a discounted term based price if you require for regular sessions. Please contact us.

ACARA Links

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Physical Computing

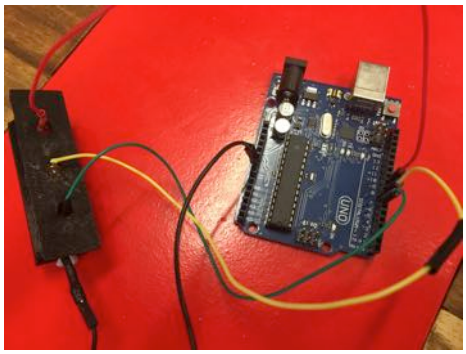
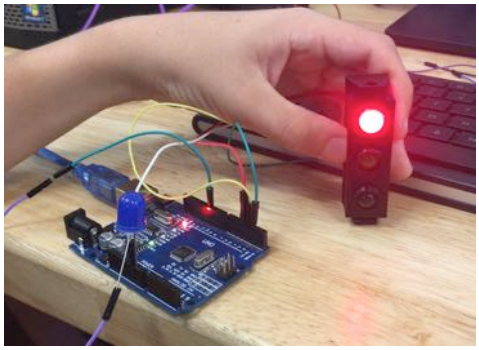
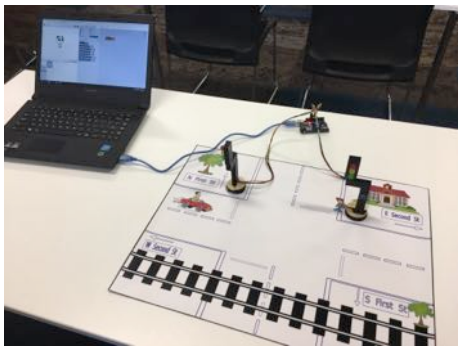
1) Traffic lights – Arduino

Building Block Studio can help students learn about electronic components and electronic systems. We have two different offerings here:

The Arduino platform is a fantastic tool to teach electronics and micro-controllers to students. This program can be tailored to specific ages. We typically start by teaching students physical computing by programming a simple set of traffic lights. We use an Arduino but the lights are programmed through our own extensions of mBlock; a simple drag-and-drop coding language. Coding can also be done by using the open source C based IDE for older students with more experience.

If requested we discuss the range of discrete components such as resistors, LED's, Capacitors and show how they operate with the Arduino as well as resistive based sensors, such as temperature and light sensors and discuss the process of analog to digital conversion. From here we can have a number of other shields and sensors to provide a rounded experience for older more experienced students.

Platforms such as the Arduino and Raspberry Pi provide a great basis for project based learning and we are happy to work with students on such projects, providing guidance and support. We often use our oscilloscope to help students visualise the signals that are being generated by the oscillator component before they are driven into a speaker. A sawtooth shape sounds different to a square wave, amplitude and frequency changes can be seen and heard.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2) BBC Micro:Bit (with coding activities)

The Micro:Bit is a great tool to demonstrate the power of coding to real world data, understanding that a device can measure temperature and movement and can respond in programmed ways. Students will learn how tiny computers called Microcontrollers can sense the physical world and provide us with the ability to write code that responds to device's sensors. Depending on the year level, students will build fun and engaging projects, such as:

- scrolling name tag
- step counter
- A rock, paper, scissor game
- A skill based game

- We allow 1 hour 30 minutes for these programs (creation and testing)
- Minimum daily rate: $850 (allows up to 75 students)
- Additional Students: $11 each
- Maximum number of students per session: 30 (working in groups of two)
- We are happy to provide multiple sessions of this program per day
- Building Block Studio provide the use of their laptop computers
- **Price excludes GST**
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ACARA Links

Primary school:

* Year 3: ACTDIK007
* Year 5: ACTDIP016
* Year 6: ACSSU097
* Year 6: ACSSU219

High School:

* Year 7: ACSIS125
* Year 8: ACSIS126
* Year 9: ACSSU182
* Year 9: ACSIS166

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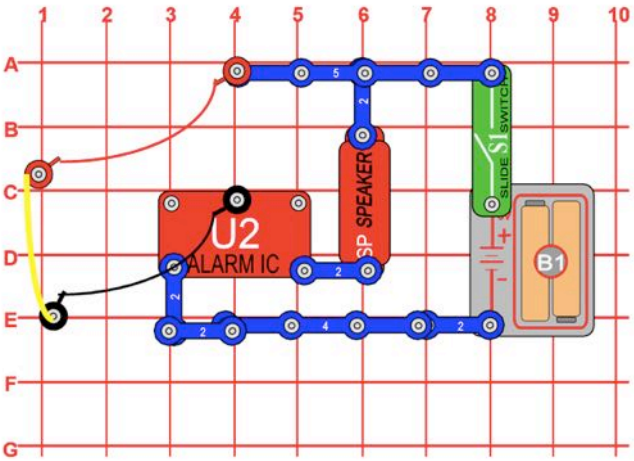
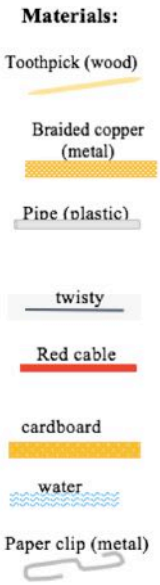
Electronic Circuits

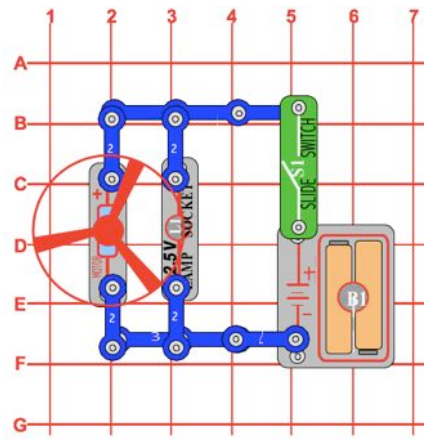
Building Block Studio can provide 15 Snap Circuit kits for a classroom of 30 students. These kits expose students to real world electronic symbols in a fun and engaging hands on experience.

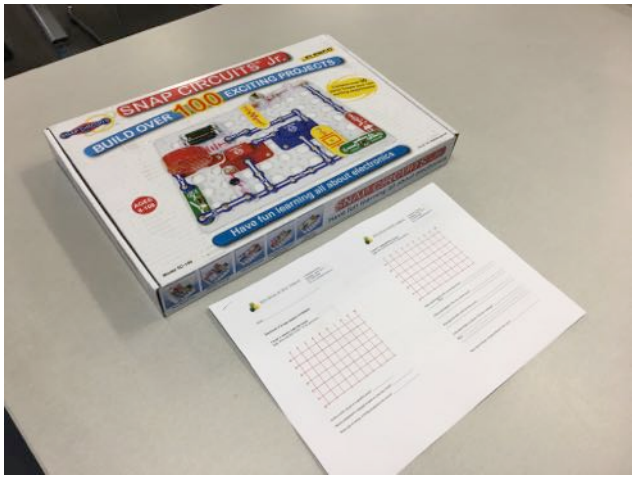
Working through a small booklet of tasks students will make a variety of circuits; including parallel, series, and open and closed circuits. One of the tasks requires students to test conductivity of electricity by using 8 different materials.

Snap Circuits have a very low and safe voltage and are easy to build!









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Using Snap Circuits we are able to provide the following program for your school:

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- Additional students: $11 each
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- We are happy to provide multiple sessions of this program per day)
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- **Prices excludes GST**
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ACARA Links:
Primary school
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3) Littlebits Electronics

We have four large kits of Littlebits electronics, these are snap together circuits that use magnets to correctly chain components together. They allow for endless experimentation and structured lessons and projects. For creative flair, these projects often involve combining Littlebits with LEGO and even art and craft supplies such as paper, string, plastic cups. Some examples include:

Bring a LEGO house to life:

- Each group of students is given an identical Littlebits kit and the necessary project supplies (LEGO, pencils, paper).
- For the first 10 minutes the group will explore and experiment with the Littlebits components in their kits creating circuits with the provided project cards.
- We discuss "what is a circuit" and how the Littlebits components conduct electrical energy which can be transferred / transformed in electrical circuits.
- If requested, we can briefly discuss what the different types of components do:
    a. **PINK** Input: input or sensors allow you to control the world around you in many different ways. For example, a button, a light switch, a dial. We can discuss where sensors like these might be seen or used in the real world as well as the analogy of human sensors (hearing, touch).
    b. **GREEN** Output: an output does something, for example: light up, make a sound, move, display numbers.
    c. **BLUE** Power: this is the source of power.
    d. **ORANGE** Wires: these wires extend the circuit.
- Next, the students will work collaboratively to **plan**, draw and label the design of their LEGO house and which Littlebits components they will use to bring it to life: will it be a fan, a door bell, a front light, an automatic door using a servo perhaps.
- The students will then work together to **build** and implement their plan using LEGO bricks and Littlebits.
- Students are encouraged to continually **test** their ideas and perhaps modify their plan if necessary.
- Students are required to draw and label simple diagrams of their Littlebits circuits which they have used.
- Once the houses are complete, the groups will **share** and discuss with the class the design features of their creation.

This is an interesting and fun workshop at anytime and can be modified for ages 8+.

ACARA Links:
Primary school
* Year 6: ACSSU097

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Littlebits Electronics workshop cost:

- **Bring a LEGO house to life:**
  - We allow approximately 1 hour and 15 minutes for this program (building, discussions and completion of supplementary worksheet)
  - Maximum number of students per session: 28 (4 groups / max 7 p/group)
  - Minimum number of students per session: 24 (4 groups / 6 per group)
  - We are happy to do multiple sessions of this program per day)
  - Minimum daily rate: $850 (allows up to 75 students)
  - Additional student
  - Price excludes GST
  - #An extra fee may be incurred depending on distance to your school

For further information, please contact us. We will always respond within a day.

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Creative Story Telling – Stop Motion Animation

Allow your students to make their very own Blockbuster movie by using Stop Motion Animation! This is a great way for students to explore the magical world of movie making. Students will use plasticine as the their medium; they can bend and mould this into the actors of their movie. Students arrange their actors and stage props, and record their film one exciting frame at a time. Students can even come with pre-written scripts!

Once complete, students will edit their film and add their chosen special effects! Students will work in small teams with a goal of producing a short 10 second movie (this may require over 200 photos). Students are required to use a storyboard in order to sequence their creative and imaginative ideas.

The rendering process of each movie will need to begin at least 10 minutes **before** the session ends to ensure the teacher and students retain the USB drive containing each movie for that session.

ACARA Links

Primary school

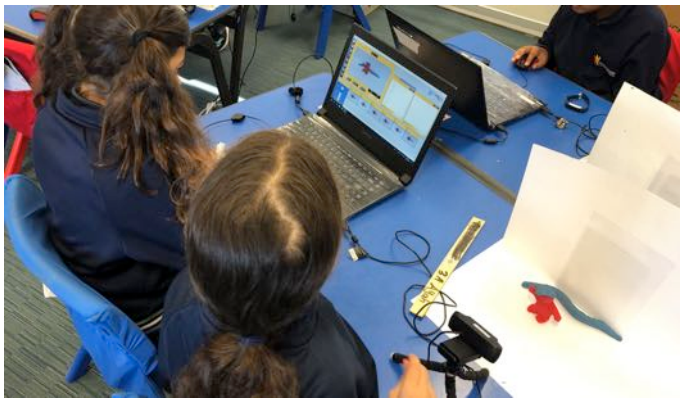
* Year 2: ACELT1593

* Years 3 and 4: ACAMAM058
* Years 3 and 4: ACAMAM060
* Years 3 and 4: ACAMAM059

* Years 5 and 6: ACAMAM063
* Years 5 and 6: ACAMAM064

High School

* Years 7 and 8: ACAMAM066
* Years 7 and 8: ACAMAM068
* Years 7 and 8: ACAMAM069



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For Stop Motion Animation we are able to provide the following program for your school:

- We allow 1.5 hours for this program (script writing, actor development, stage set-up, filming, editing and special effects)
- Minimum daily rate: $850 (this allows for up to 75 students)
- Additional students: $11 each
- Maximum number of students per session: 30 (working in groups of 2-4)
- We are happy to do multiple sessions of this program per day)
- Building Block Studio provides the use of their laptop computers
- **Prices excludes GST**
- #An extra fee may be incurred depending on travelling distance to your school

We can provide 'one off' workshops as well as a multi-week program which we can run over a number of consecutive weeks throughout a school term. For further information, please contact us. We will always respond within a day.

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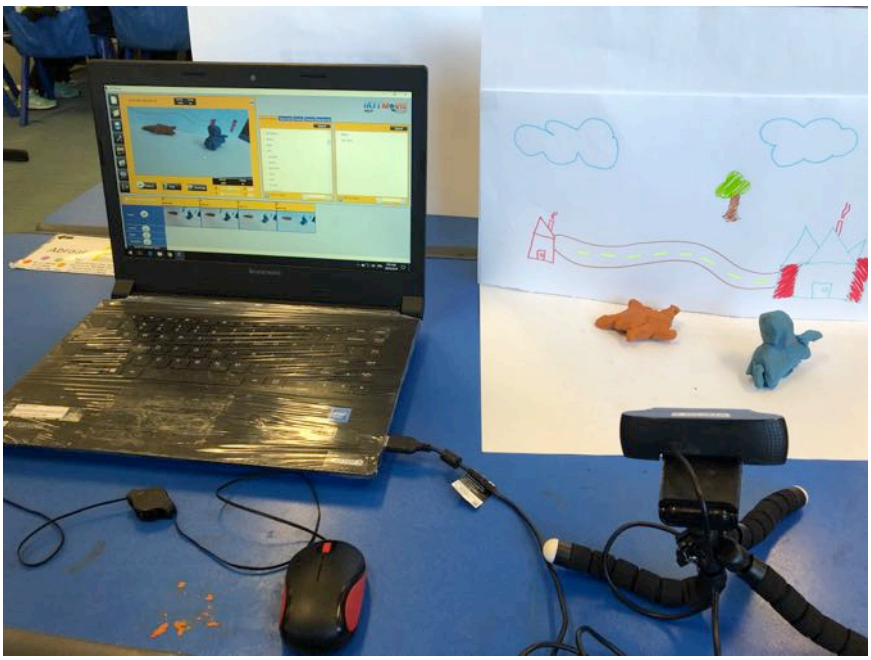
Phone: 3869 0885



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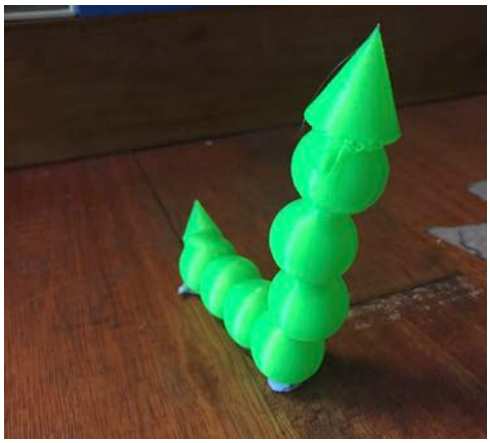
3D Design

Building Block Studio has two 3D printers that we use to teach 3D design and 3D printing. Typically, we show students how to build a model and then take them through the process of slicing it up ready for the 3D printer.

We can delve deeper into the specifics of printing a model, topics such as dual extrusion, plastic properties, best practice for models with bridges, rafts and print head speeds.



What can we do for you?
We can run workshops for students in our studio, alternatively we can use computers at your school provided they have appropriate design software.

For further information, please feel free to send us an email. We will always respond within a day.

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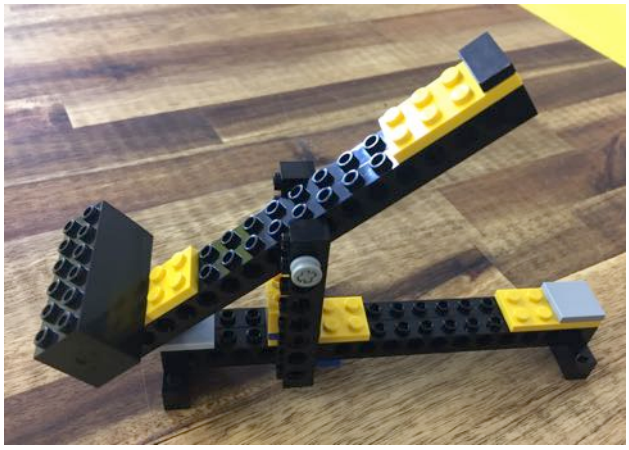
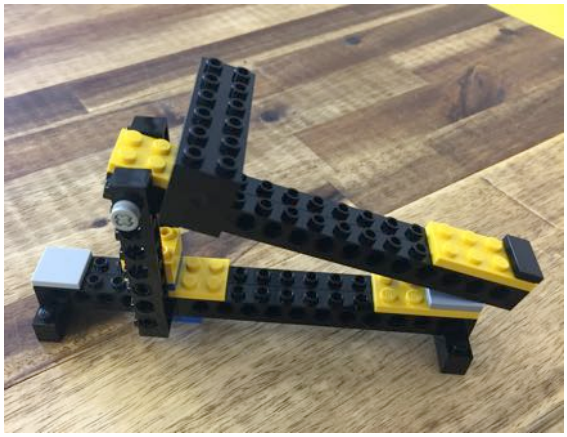
LEGO Engineering

LEGO is a great medium for teaching basic engineering concepts to students. We offer the following programs using LEGO:

1) A lesson on Levers:

The students will learn the basic principles of the three different types of levers: first class, second class and third class. In pairs students will build their own lever and then experiment by changing the location of the pivot (fulcrum) and the load (output force) and discuss where on the lever the effort (input force) is applied to achieve movement of the load. They are encouraged to discuss and draw real life examples of each different class of lever.





ACARA Links:

Primary school

* Year 3 and 4: ACTDEK011

We allow 1 hour and 15 minutes for this program (building, discussions and completion of supplementary worksheet)
- Minimum daily rate: $850 (allows for up to 75 students)
- Maximum number of students per session: 28 (working in pairs of 2)
- We are happy to do multiple sessions of this program per day
- **Price excludes GST**

#An extra fee may be incurred depending on travelling distance to your school

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2) Bridge Building:

Depending upon the year level, students will learn about common types of bridges. They will each receive a small information sheet illustrating six common bridge types. The group will discuss how the load distribution differs between the bridges and the strengths and weakness of each bridge type. Using their new knowledge, we then have the students build a bridge with a span of at least 30cm with no supports underneath.

During the build the students will be encouraged to assess the areas of their bridge which might need reinforcing. We ask the students where they think their bridge might fail. At the end of the build each bridge is stress tested by placing small weights onto the span to ensure the bridge can remain structurally sound. In the case of beam bridges, we see the bridge collapse in the centre, but the cable bridges will break on the supporting towers.

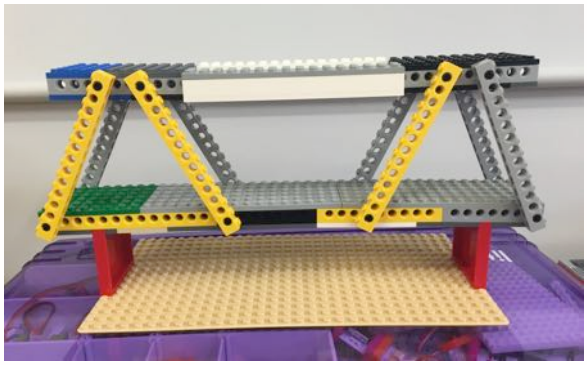
ACARA Links:

Primary school

* Year 3 and 4: ACTDEK011

We allow 1 hour and 15 minutes for this program (building, discussions and completion of supplementary worksheet)
- Minimum daily rate: $850 (allows for up to 90 students)
- Additional students: $9 each
- Maximum number of students per session: 28
- We are happy to do multiple sessions of this program per day
- **Prices excludes GST**

#An extra fee may be incurred depending on travelling distance to your school



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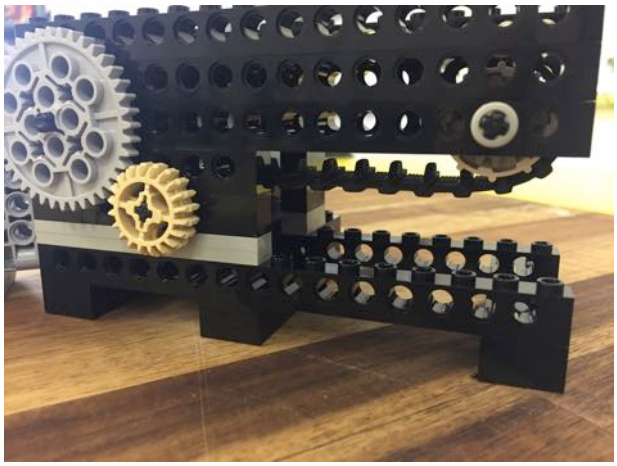
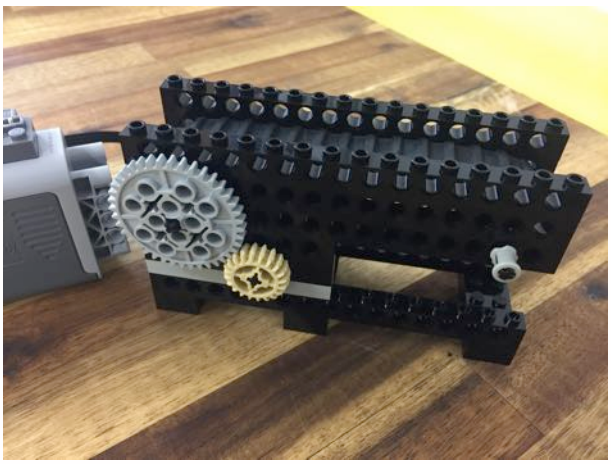
3) Build a conveyor:

The students will work in pairs to build a small belt conveyor out of LEGO, a small motor and a battery box. The students will learn that a conveyor belt is one example where a belt can be adapted to continuously carry a load between two points using a source of motion.

The students then conduct an experiment: how to change the speed of the conveyor belt. They can see how the using a small gear to drive a larger gear makes the conveyor belt go slow, whereas if a large gear is used to drive a smaller gear then the conveyor belt will speed up. The students are encouraged to **predict** what will happen at each stage of their experiment and to **record** their findings. At the end the students will be asked to identify real world examples of belt conveyors.





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ACARA Links:

Primary school

* Year 3 and 4: ACTDEK011
* Year 3 and 4: ACTDEP017

We allow 1 hour and 30 minutes for this program (building and discussions) and

- Supplementary worksheet to be completed back at the classroom
- Minimum daily rate: $850 (allows for up to 90 students)
- Maximum number of students per session: 30 (working in pairs of 2).
- Incursion cost: $8[#] per student
- **Price excludes GST**

[#]An extra fee may be incurred depending on travelling distance to your school

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Fine Motor Skills:

LEGO is a great medium for younger students to develop and refine their fine motor skills.

1) LEGO Mosaic puzzles

Students from Prep to year 3 (and beyond) will enjoy these puzzles. We have a number of different mosaics with different themes. This session would involve the students working towards completing a themed picture just out of regular LEGO bricks and a small base plate. Each student is provided with a completed mosaic puzzle and a picture card which they use to copy from. The students are required to first disassemble the puzzle and then put it back together again.

This is aimed at improving the student's simple math skills, shape and colour recognition as well as spatial reasoning and fine motor skills. Typically, students will take on average 1 hour to complete a puzzle. Students can complete the challenges individually or as a group working together.

We allow 1 hour and 15 minutes for this program:
- Minimum daily rate: $850 (allows for up to 90 students)
- Maximum number of students per session: 30
- We are happy to do multiple sessions of this program per day)
- we would need access to tables for the students to work at
- **Prices excludes GST**

#An extra fee may be incurred depending on travelling distance to your school

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2) LEGO Construction:

Students from Prep to year 3 (and beyond) will enjoy making a creation out of LEGO. Build a wonky house, a scary jail, a funny animal, a tall tower, a space station, or something else out of LEGO.

This workshop is aimed at encouraging creativity and refinement of fine motor skills. Students are required to draw a simple picture of what their creation will look like. At the end, they will be encouraged to reflect on their finished product when compared to their original idea. Students can work individually or as a group.

We allow 1 hour and 15 minutes for this program:
- Minimum daily rate: $850 (allows for up to 90 students)
- Maximum number of students per session: 30
- We are happy to do multiple sessions of this program per day)
- **Price excludes GST**
- We would need access to tables for the students to work at

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LEGO Club:

Provide your students with an opportunity to build and create with LEGO on a regular basis. We can bring the following resources to your school:

- tubs of classic LEGO and base plates
- tubs of DUPLO LEGO and base plates for young hands (if requested)
- a large supply of LEGO train track and 4 battery operated trains



Before school LEGO club:

- Maximum number of students per session: 30
- Minimum number of students per session: 20
- Time: 7:15am – 8:15am
- Cost per session: $8# per student
- $64 term price (excluding GST)

#An extra fee may be incurred depending on travelling distance to your school

After school LEGO club:

- Maximum number of students per session: 30
- Minimum number of students per session: 20
- Time: 2:45pm – 3:45pm
- Cost per session: $8# per student
- $84 term price (excluding GST)

#An extra fee may be incurred depending on travelling distance to your school

1) 8 wk Term Price: $64 (term price equates to $8 per student per session. Minimum 20 students. Paid up-front at the beginning on the term.
2) we would need access to tables for the students to work at, alternatively they can build on the floor.
3) These clubs provide LEGO resources and supervision only (all students are to be self-guided).

For further information, please feel free to send us an email. We will always respond within a day.

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LEGO Power Functions

We have a large range of LEGO Power Function components, these are motors, gears and IR remote controls. With these we are able to create remote controlled vehicles that use gearing to control the steering and motor speed. We have a number of SBricks which are Bluetooth controllers that are compatible with Power Functions, these in fact can be controlled via Scratch and can provide coders with more power to control their LEGO creations. We normally encourage students to build models that incorporate gearing to a degree, this gives us an opportunity to discuss the types of gears and the effects they have on rotational movement and the torque they generate.

What can we do for you?
We can run workshops for students in our studio, alternatively, we can work at your school and bring our LEGO to you.

Minecraft

We have three main goals associated with our Minecraft sessions:

1) Teach students how to be a good online citizen.

Students share the same world and often work along side each other as neighbours. Students learn our Minecraft motto: "if you didn't make it, then do not break it". Students much act and speak appropriately at all times.

2) Team cooperation and sharing of ideas.

We encourage the more experienced players to share their knowledge with others and to help younger player who are still learning.

3) Confidence and public speaking.

At the end of every session each student will have the opportunity to explain and show what they have built to everyone on the big screen TV. Students are always keen and proud to do this.

For further information, please feel free to send us an email. We will always respond within a day.

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