## mta modern teaching aids

## **STEM** Resources 2017

Construction & Engineering Sets Robotics 3D Printers Makerspace Sets





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## **STEM Resources**

## What is STE(A)M?

STEM is an educational approach that incorporates Science, Technology, Engineering and Mathematics to guide students learning. By adding art and design to the equation, STEM transforms into STEAM.

Students that are exposed to experiential learning are proven to be better problem solvers, more creative and develop higher level critical thinking skills.

These attributes are essential for all students, in order to meet the needs and expectations of the 21st Century workforce and future careers.



#### Geomag Mechanics Class Set GE0225

GEO225 220 pieces & 40 cards \$289.95

In this mini laboratory, students are introduced to the basic concept of magnetic polarities. They then tailor the polarities to create controlled magnetic reactions and drive motion before progressively tackling more challenging tasks such as building and reinforcing a bridge span. STEM are woven into this stimulating and truly innovative set, which includes easy-to-comprehend student work sheets and a teacher's guide.



#### **Resource features and information**





#### Contents

- 2x 20 sets Mechanics cards
- 60 rods
- 64 spheres
- 4 indicator rods
- 8 compass roses
- 84 extra building accessories
- Contained in a plastic Gratnells SmartCase® for easy storage

#### **Key Learning Values**

- Magnetic polarities
- Making a compass
  - Accumulation of polarities
  - 2D and 3D shapes
  - Structures
  - Utilising magnetic push and pull forces
- Creating rotational movement
- Driving movement through magnetism
- Simple electric motors

Free Freight Just add \$200 of Art & Craft, Stationery or Health & Hygiene to your order

Valid until 31st December 2017. Promotional value excludes GST & freight. \*Offer excludes export & new projects.





<del>\$572.55</del>

SAVE \$102.60

MS900K

**469**<sup>95</sup>

together impressive ideas.

Makerspace Building Kit

"Engineer, create, build and improve structures,

models and building. Use plastic, wood, or other

base materials and use the tools included to put



#### Kit includes

\$469.95

1x K'NEX - Introductory Building Set 705 pieces (KN12211)

1x Straw Beads Heavy Duty - Pack of 218 (RE2152)

1x Galt - Connecta Straws (GN0545)

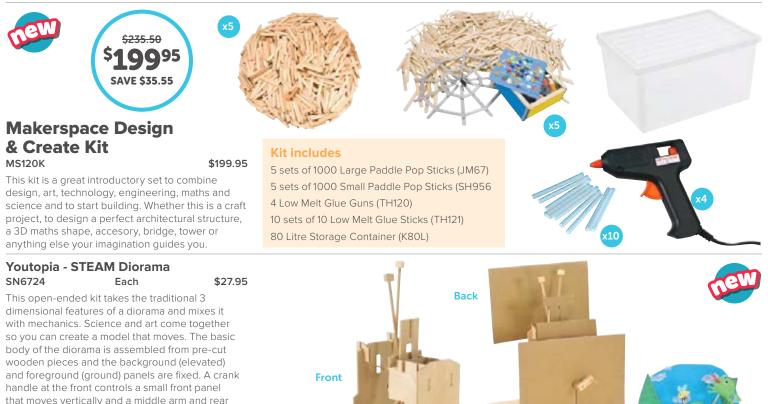
1x Balsa Wood Box Assorted Sizes 3kg (ATM10801)

1x Paddle Pop Sticks Plain - Pack of 1000 (JM67) 1x Scratch Wooden Sticks - Pack of 25 (TH088) 1x Duct Tape 20m x 48mm (UB0096D) 1x High Temperature Glue Gun (CG39) 1x High Temp Glue Stick 10cm - Pack of 10

#### (CG46)

1x Hammer - 16cm (IND012)
1x Nails Assorted 20 to 50mm 7oz - Pack of 210 (NL024)
1x Armature Wire 3mm x 50m Roll (TH903)
1x Wooden Spools Natural - Pack of 50 (SH960)
1x Construction Value Pack Natural - Pack of 1000 (SH962)
1x Wooden Wheels - Pack of 20 (TH502)
1x Seagrass Cord 75m Roll (SH919)
4x Single – Double – Triple Pulley Set (EIS0280K)

2x Heavy Duty 80 Litre Container (K80L)



and foreground (ground) panels are fixed. A crank handle at the front controls a small front panel that moves vertically and a middle arm and rear arm that move independently in a horizontal arc. Card stock is supplied to be decorated and slotted or glued onto the moving parts and panels can be changed as required to create new scenes. Instructions include helpful hints for decoration and the packaging includes images of completed designs for visualisation. Suitable for ages 8+



### STEM Resources STEM Kits



#### STEM Engineering & Design LER2842 \$44.95

Get early STEM skills in full swing! Set includes plastic pieces to build and design a playground. Make a slide, swingset, see-saw and more! Additional pieces help add the ""A (Art) to STEM (STEAM).

#### Set includes

- 2 Blue Slide pieces
- 1 Black Tire
- 1 Yellow Swing Seat
- 1 Purple Platform
- 1 Orange Hook
- 1 Green Handle
- 2 Green Seesaw Plank
- 6 Blue Triangle Connectors (one with loop)
- 1 Blue Circle Connector (for triangle pieces)
- 6 Yellow Round Bases
- 4 Purple Rod Connectors
- 2 Orange Round Poles

- 2 Orange Round Connector Poles
- 8 Green Short Square Poles

**M**T

5+

- 8Green Long Square Poles
- 6 Green Base Connectors
- 4 Green Connecting Planks
- 4 Orange Gears (one with raised connection)
- 1 Zipline Pole
- 1 string (30")
- 2 Playground Pals
- 28 Blue Links
- 10 Challenge Cards
- Teacher guide





#### STEM Sink & Float Activity Set LER2827 20 activities

\$59.95

\$59.95

Bring investigations about sinking and floating to life! Includes two-piece submarine, 10 colourful weights, 2 stars, a raft, and 10 activity cards with 20 activities to cover topics like buoyoncy, gravity, density, and more! Comes with detailed teacher material. Submarine measures 15 x 9cm.





#### STEM Forces & Motion Activity Set LER2822 20 activities

Learn all about physics in a fun, colourful way. Pieces include a pendulum with frame, trellis (23cm high), 2 roadway tracks (30cm long), 2 cars (7cm long), weights, 10 activity cards that cover all aspects of STEM, plus key science concepts of gravity, inertia, friction, push/pull and more! Includes additional teacher material.



#### STEM Activity Kit - Set of 4 LER2833K \$199.95

This kit consists of one of each of the following sets: STEM Sink & Float (LER2827), STEM Magnets (LER2833), STEM Force & Motion (LER2822) and STEM Simple Machines (LER2824).



\$59.95

Learn all about the properties of magnetism in a fun, colourful way. Pieces include a horseshoe magnet, magnetic post, maze, 4 ring magnets, 2 bar magnets, 2 magnetic bugs, 2 snap-on cars, and 10 double-sided activity cards (20 activities!). Comes with extensive teacher notes. Maze measures 28 x 21.5cm.



#### STEM Simple Machines Activity Set LER2824 20 activities

\$59.95

Introduces children to all 6 simple machines: pulley, lever, wheel & axle, inclined plane, screw, and wedge. Includes 10 activity cards covering all aspects of STEM and a comprehensive teacher guide. Set includes 20 engaging activities.



The intended use of the products featured on this page, are for educational purposes only. Adult supervision required. Seek immediate medical attention if magnets are swallowed or inhaled.



### Polydron STEM Sets STEM Resources











#### Polydron Bridges Class Set ZZ9030B 322 Pieces

\$499.95

Unlock the secrets of bridge building with Polydron Bridges which gives budding civil engineers and designers a chance to build and test several types of bridge designs, including some of the most recognisable, world-famous bridge constructions. Twelve comprehensive work cards and lesson plans provide step-by-step instructions to piece together truss, suspension, cantilever, drawbridge, cablestay, swing and bascule bridges. The set will encourage and challenge children to go beyond the set shapes and to experiment with their own creations.



7047970N

### See inside the shape and explore the space within

#### Polydron Frameworks Multi Pack ZZ3043 460 pieces \$299.95

Frameworks is the next generation of Polydron with the versatility for bigger and more complex shapes. A unique joining system makes Frameworks completely compatible with original Polydron which will complement any packs already in the classroom. It is lighter and therefore students can construct more complex and bigger designs, while allowing them to see the inside of the shape and explore the space within. Investigate shape, angles, edges, vertices, planes and tangent. Includes an activity booklet.







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### STEM Resources K'NEX STEM Sets





## K'NEX Exploring Machines SetKN78601432 pieces\$249.95

Build 30 different models with this comprehensive 1432-piece simple machines set. The kit allows 4 groups to build a specific model simultaneously if required. The models demonstrate levers, pulley systems, wheels and axles, inclined planes, screws and wedges. Also focuses on spur, crown, sprocket, rack and pinion, transmission and differential gear systems. The 70-page teacher's guide contains both key facts and 14 inquiry-based lesson plans. Ages 8+ years



#### K'NEX Exploring Wind & Water Energy KN77051 288 pieces

This set allows students to experiment with wind and water power. Students will investigate the science behind these energy sources and the technologies that make them useful. Build 7 models, one at the time. Suitable for 2-3 students working in small groups. Ages 9+ years.



Build 30 different models

#### K'NEX Investigating Solar Energy KN77075 129 pieces

\$126.95

This set allows students to harness the energy of the sun and convert it into electricity to power the K'NEX models. Build 3 solar powered models, one at a time. Suitable for 2-3 students working in small groups. Ages 9+ years.



### K'NEX STEM Sets STEM Resources





### **K'NEX Introduction to Simple Machines**

KN78610K	Kit	\$189.95
KN78610	Levers & Pulleys	\$69.95
KN78620	Wheels Axles & Inclined Planes	\$69.95
KN78630	Gears	\$69.95

STEM Education focuses on science, technology, engineering and mathematics concepts taught through problem-solving, discovery, exploratory learning and critical thinking. These K'NEX models offer hands-on learning opportunities that these learning outcomes. The inquiry-based lessons challenge students as they build, investigate, problem solve, discuss, and evaluate scientific and design principles in action. Each set comes with teacher's guide. Find more information about each individual set on our website.



#### K'NEX – Lower Primary Maths Set KN79028 920 pieces

\$199.95

Set includes enough material to build 95 maths and geometry models and can support 12 to 16 students working in teams of 3 or 4. Key concepts include: surface area and volume, congruence and similarity, fractions, decimals, money and percentages and more. Models include: angles, polygons, prisms, pyramids, cubes, fraction models, area and perimeter, challenge models and more. Comprehensive teacher's guide is included. Supplied in a strong storage tray with lid.



#### **K'NEX – General Construction Set** KN7981 1475 pieces \$299.95

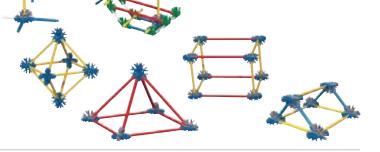
Tremendous value for general building! Treat your class to 1475 K'NEX pieces and building instructions for an unprecedented 82 exciting and dynamic models. Standard and unique K'NEX pieces explode from this convenient plastic tub including new K'NEX Panels! Contents include a spring motor, a power pack motor and 2 instruction books, all packed in plastic storage tub.



**Builds 95 models** 

#### **Key Concepts**

- Surface area & volume
- Congruence & similarity
- Perimeter
- Fractions & percentages
- · 2D & 3D shapes
- Engineering
- ...and much more!





#### K'NEX – Introductory Building Set KN12211 \$89.95 705 pieces

Includes 705 classic K'NEX pieces for open ended construction. Includes instructions and ideas for 70 unique models including cars, plane, sea creatures, and more. All K'NEX sets are compatible. Use your imagination to build creative and colourful constructions. Each piece snaps together to create large scale, stable models. Supplied in a cardboard box.



## STEM Resources Gigo STEM Sets





## Forces & Simple Machines GG1234 Each set \$99.95 GG1234K Set of 4 \$339.95

Using Gigo's construction blocks, kids can build models of cranes and scales within the courses while learn about the principles behind the movement of force, levers, inclined planes, axles and some other simple machines. The set includes 20 lesson plans, including 16 models and 4 creative works, a student workbook, and 3D Smart Manual to view the model on your tablet in 3D. Each lesson plan exists of an introduction with theory, building instructions, the experiment, improvements and evaluation.



## Learning Lab – Motion & Mechanism GG1235 Each set – 20 Modules \$109.95 GG1235K Set of 4 \$339.95

Using Gigo's Learning Lab construction blocks as a foundation, kids can learn the designs of complex transport machines, and understand the movement and the function of different types of mechanical structures, including: gear racks, cams, and worm gears. It helps kids to develop the foundations of mechanical machine design. The set includes 20 lesson plans, including 16 models and 4 creative works, a student workbook, and 3D Smart Manual to view the model on your tablet in 3D. Each lesson plan exists of an introduction with theory, building instructions, the experiment, improvements and evaluation.



## Learning Lab – Electricity & Circuit Kit GG1236 20 Modules \$154.91 GG1236K Set of 4 \$519.91

Using Gigo's Learning Lab electrical building blocks, kids will learn about series and parallel connection, as well as simple circuit designs by assembling common devices from our daily lives, such as a traffic light, an alarm and a torch, developing knowledge of electricity in the process. The set includes 20 lesson plans, including 16 models and 4 creative works, a student workbook, and 3D Smart Manual to view the model on your tablet in 3D.





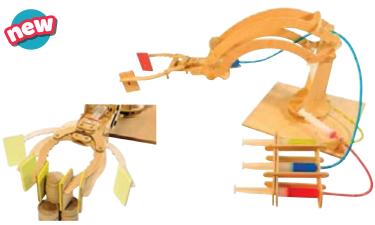






#### Hydraulic Classroom Pack SN6717 \$299.95

This large hydraulic classroom pack ensures that you only need scissors, glue and cardboard to get the class inventing with parts for 30 students in pairs to build over 15 machines with an average of 4 pistons per machine.



**Hydraulic Robotic Arm** SN6710

\$49.95

This model uses a battery of independent hydraulic circuits to provide absolute control over the arm pincers: grip, lift, twist, lower and release. This set teaches the basics of hydraulics and robotics.

Each



#### Build a cherry picker, excavator, platform lifter & scissor lift!

#### Hydraulic 4-in-1 Mini Machines SN6706 \$64.95

This set includes the four main hydraulic mini machines: the cherry picker, and excavator as well as the platform lifter and scissor lift. The cherry picker teaches the principles of linkages and includes a small platform for figurines that remains flat at any height. The excavator teaches the principles of levers and hydraulic power. The mechanism includes two hydraulic cylinders and can be adjusted to provide either digging or scooping actions.





#### **Geomag Mechanics Class Set GEO225** 220 pieces & 40 cards

\$289.95

In this mini laboratory, students are introduced to the basic concept of magnetic polarities. They then tailor the polarities to create controlled magnetic reactions and drive motion before progressively tackling more challenging tasks such as building and reinforcing a bridge span. STEM are woven into this stimulating and truly innovative set, which includes easy-tocomprehend student work sheets and a teacher's guide.



#### Contents

- 2x 20 sets Mechanics cards
- 60 rods
- 64 spheres
- 4 indicator rods
- 8 compass roses
- 84 extra building accessories
- Contained in a plastic Gratnells SmartCase® for easy storage

#### **Key Learning Values**

- Magnetic polarities
- Making a compass
- Accumulation of polarities
- 2D and 3D shapes
- Structures
- Utilising magnetic push and pull forces
  - Creating rotational movement
  - Driving movement through magnetism
  - Simple electric motors



### STEM Resources Simple Machines Sets





### EIS0020SM \$32.95

With large block on the head of the screw to give additional leverage. Size: 20 x 10 x 11cm.



#### **Gear Train** EIS0011SM \$51.95

This apparatus can model how gears work at a basic level to make work easier. The base is 16.5 x 8.9cm, 41cm tall.



#### Pulley EIS0012SM \$25.95

This model shows mechanical advantage created by pulleys. Size: base 16.5 x 8.9cm and 41cm tall.



#### Pendulum EIS0013SM \$25.95

Study the relation between length of the pendulum and period of the bob. Size: base 8.9 x 16.5cm, 39.5cm with 30cm adjustable pendulum.



## EIS0018SM \$17.95

Study levers and mechanical advantage both qualitatively and quantitatively. Size: base 22 x 7cm, the lever arm is 19cm.



#### Wooden Simple Machines Class Set EISO019K Set of 12 \$279.95

These wooden simple machines are a great resource to show your students how simple machines can provide mechanical advantage and change the magnitude and direction of a force. Each model has a sturdy construction, perfect for classroom use. The models come with detailed instructions and activities.



Inclined

an adjustable height.

EIS0015SM \$38.95

\$27.50

With a shallow indent for adding additional mass

if needed. With rubber wheels and grooves in the

track of the inclined plane. Size: 42 x 8.2cm with

This model can demonstrate how gears can turn

rotational motion into translational motion. The

base is 40 x 6cm and the model is 15.2cm tall.

Plane EIS0010SM

Gear



#### Wedge EIS0014SM \$25.95

**Block & Tackle** 

EIS0021SM \$32.95

Size: 17 x 12 x 22cm.

This model can be used to demonstrate how a wedge can increase mechanical advantage. Size: 35 x 9.5cm base with adjustable height.



#### Motion Converter EIS0016SM \$38.95

Show your students how rotational motion can be converted into linear motion with this motion converter. The gears are 12cm in diameter and are mounted on a 38.5 x 6.8cm base. The model is 14.5cm tall.



Wheel & Axle EIS0019SM \$24.95

This model can show how a crane works, as well as several other uses for a wheel and axle. Size: base 24 x 9.5cm. Stands 11.5cm high.







Study how changing the distance from the fulcrum changes the mechanical advantage. Students can intuitively figure out the balance point for a given set of masses. Size: 22 x 5.5cm with a height of 13.3cm. The lever arm is 45cm long





Work groups come to life, as students explore and reproduce 2D polygons, 3D geometric shapes and space concepts using coloured, magnetic rods. The engaging content gives insight to both structured and open-ended activities. A progressive series of cards define a model to complete, questions for students to independently discuss and questions to help teachers assess the students' understanding.





#### Geomag Shape & Space Set **GEO222** 124 pieces & 40 Cards

\$199.95

Our introductory set ensures all students find the elementary principles of Euclidean geometry fun, easy to grasp and stimulating. Model building and discussions in the classroom encourage proactive participation, leading to positive results from an early age.

#### Contents

- 2x 20 Activity Shape and Space cards
- 60 rods
- 64 spheres
- Contained in a plastic Gratnells SmartCase® for easy storage

#### **Key Learning Values**

- Constructing 2D and 3D shapes
- Perimeters and areas, doubling & halving
- Triangles and quadrilateral shapes
- Pyramids, guadrangles, triangles, octagons, hexagons
- Repeating sequences and tessellations
- Parallel and mirror lines
- · Symmetry and rotational symmetry
- Distinguishing between straight and turning movements/recognising 1/2 and 1/4 turns
- Visualising and describing shapes, movements and transformations
- Applying numeracy skills to other areas of learning
- · Collecting and recording data/analysing and explaining results and procedures

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Solving problems by breaking down into smaller tasks



#### **Key Learning Values**

- Constructing 2D and 3D shapes
- Right and acute angles, perimeter of squares
- · Properties of regular and irregular polygons
- Duplication, symmetry and mirror lines
- Pattern theory and mathematical nets
- Measuring drawing lines
- Probability
- Mathematical language, notation, symbols
- Verbally describing shapes, movements and transformations
- Collecting data, recording findings, classifying objects
- Solving problems by breaking down into smaller tasks

#### Contents

- 20 Shape and Space cards
- 20 Shape and Space Panels cards
- 90 rods
- 80 spheres
- 32 triangle panels
- 32 square panels
- 4 pentagon panels
- 6 base platforms
- Contained in a plastic Gratnells SmartCase® for easy storage

#### **Geomag Shapes & Space GEO224** 244 pieces & 40 cards

\$289.95

The panels included in this set allow students to create more rigid 2D and 3D shapes. By reinforcing the concepts of Euclidean geometry with 2D polygons, 3D forms and much more as they build concrete models and make real-life comparisons, pupils enjoy then elaborating their models in a creative, stimulating and productive classroom environment. This concrete approach to understanding abstract concepts gives pupils a head start.





## Discover how the real world works with great hands-on learning

## **LEGO<sup>®</sup> Education Simple** Machines Curriculum Solution

LEG9689 \$99.95 13 22 204  $\bigcirc$ 

This set features a brick assortment that includes gears, wheels and axles, levers and pulleys.

Use this set with the accompanying curriculum pack to engage students in investigating and understanding the operation of simple and compound machines found in everyday life. The support materials provided in this curriculum pack include teacher guides and student worksheets.





## **The Simple Machines Solution**

Solution includes

Simple Machines Core Set

Simple Machines Activity Pack\*

What's included in the Curriculum Solution?

## Core Set 🗸

Carefully selected LEGO® bricks support students motivation to develop basic STEM capabilities, through building and investigation of real life machines and mechanisms models.

#### Curriculum content

capabilities\*

10

Built on national standards

Lesson materials inspire

and support educators

and students to develop the foundation of STEM

and developed by teachers.

Assessment tools

Assessment of students'

learning is enabled through

checklists, and student self-

rubrics, observation

assessment tools.



Step-by-step tutorials to help you get started.\*



with any questions.

Ongoing telephone and

online support to help you

Community

Access to the LEGO Education community of teachers for additional ideas, tips and new connections.

## What can I add on?

### Training and professional development

Check our Professional Learning calendar on teaching.com.au to find training near you.



### **Replacement Packs**

Replacement bricks are available.



\*Available for free download from LEGOeducation.com/downloads



## mt a

### LEGO<sup>®</sup> Education Simple Machines **STEM Resources**

<b>Classroom</b> <b>Solutions</b> Simple Machines Curriculum Solution Packs	Simple Machines Curriculum Solution LEG9689	Power Functions Battery Box LEG8881	Power Functions M-Motor LEG8883	MTA Storage System Single SUN8317 Product Company Comp
LEG9689-4N 8 students \$379.95 SAVE \$19.85	4			
LEG9689-4NM 8 students \$499.95 SAVE \$75.45	4	4	4	
LEG9689-8N 16 students \$739.95 SAVE \$59.65	8			
LEG9689-8NM 16 students \$949.95 SAVE \$200.85	8	8	8	
LEG9689-8NS 16 students \$1,049.95 SAVE \$260.75	8	8	8	1
LEG9689-12N 24 students \$1,099.95 SAVE \$99.45	12			
LEG9689-12NM 24 students \$1,399.95 SAVE \$326.25	12	12	12	
LEG9689-12NS 24 students \$1,499.95 SAVE \$386.15	12	12	12	1

## Included with each purchase of the Simple **Machines curriculum solution**



## **Simple Machines Activity Pack**

The activity pack for Simple Machines features 16 principle activities, 4 main activities and 4 problemsolving activities. Enables students to recognise simple machines in everyday use, to understand the principles behind them, and to become familiar with the vocabulary relevant for the simple machine in focus: gears, wheels and axles, levers or pulleys. Includes a comprehensive teacher's guide. This activity pack is included with LEG9689 Simple Machines Curriculum Solution.

## **Key Learning Values**

- · Observing and investigating simple machines: gears, wheels and axles, levers, and pulleys
- · Developing scientific inquiry skills
- · Following a design brief as part of the engineering design process
- · Learning and applying relevant vocabulary for simple machines
- · Fair testing, predicting and measuring, collecting
- data, and describing outcomes



## Facilitate real-world STEM learning

### LEGO<sup>®</sup> Education Simple & Powered Machines Curriculum Solution

LEG9686 \$**279.95** 

This primary and high school level core set contains a brick assortment and full-colour building instruction booklets for 28 models.

Use this set with the accompanying curriculum pack to promote students' fundamental STEM understanding of simple machines, structures and mechanisms. The curriculum pack provides full lessons, extension activities and problem solving tasks, as well as teacher guides and student worksheets.

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## Solution includes

- Simple & Powered Machines
   Core Set
- Introducing Simple & Powered Machines Activity Pack\*
- Advancing with Simple & Powered Machines Activity Pack\*



## A stimulating STEM solution

## What's included in the Curriculum Solution?

## Core Set 🗸

Contains LEGO bricks and gears to create small models to build and explore real world mechanisms and energy concepts, motivating students STEM learning.

#### Curriculum content

The curriculum material

curriculum standards and

easy accessible activities

to deliver highly engaging

supports teachers with

is based on national



Assessment of learning is enabled through creative assessment, teachers checklists and student self assessment tools.\*



Step-by-step tutorials to help you get started.\*

#### Technical support

Ongoing telephone and online support to help you with any questions.

## Community

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Access to the LEGO Education community of teachers for additional ideas, tips and new connections.

## What can I add on?

#### **Expansion sets**

STEM learning.<sup>4</sup>

Two add-on packs are available, each with curriculum pack included. These are the Renewable Energy Add-on and the Pneumatics Add-on.



Check our Professional Learning calendar on **teaching.com.au** to find training near you.



Technology components are also available as separate products.

Replacement Packs



Replacement bricks are available.

\*Available for free download from LEGOeducation.com/downloads

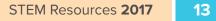


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## LEGO<sup>®</sup> Education Simple & Powered Machines **STEM Resources**

<b>Classroom</b> <b>Solutions</b> Simple & Powered Machines Curriculum Solution Packs	Simple & Powered Machines LEG9686	Track, Ramp & Stand EIS0355DYTR	<section-header><section-header></section-header></section-header>	HTA Storage System Triple SUN8337 Corrections
LEG9686-3N 6 students \$799.95 SAVE \$39.90	3			
LEG9686-6N 12 students \$1,569.95 SAVE \$109.75	6			
LEG9686-6ST 12 students \$1,719.95 SAVE \$179.95	6		1	
LEG9686-8N 16 students \$1,999.95 SAVE \$239.65	8			
LEG9686-8ST 16 students \$2,199.95 SAVE \$319.60	8			1
LEG9686-12N 24 students \$2,979.95 SAVE \$379.45	12			
LEG9686-12ST 24 students \$3,279.95 SAVE \$519.35	12		2	
LEG9686-12NS 24 students \$3,379.95 SAVE \$529.30	12	1	2	
LEE9686-15N 30 students \$3,699.95 SAVE \$499.30	15			
LEG9686-15ST 30 students \$4,099.95 SAVE \$659.20	15			2
LEG9686-15NS 30 students \$4,199.95 SAVE \$779.10	15	2		2
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<del>\$209.85</del> **NOW ONLY** 

> SAVE \$39.90

**59**95

## **Made of 100%** recyclable cardboard

Gigi B	locks Set	
GIG2	60 pieces	\$69.95
GIG2-K	180 pieces	\$169.95

Made of 100% recyclable cardboard: Above all, children's safety first. These exciting building blocks from recyclable, but firm cardboard. Yes, if the children fall on them, they might break faster than plastic. But you can be sure, they won't hurt themselves. Other than that, they will enjoy playing with these blocks again and again, lasting for year.



#### Solid Water Sensory Gel RE6560

\$32.95

In just a few minutes, you can create a clear gelatine-like material that can be moulded into interesting shapes. It acts like solid water! The material is vegetable based and vegan. Develop fine motor and problem solving skills. Use it in art activities or make your own wobbly building blocks! The gelatine contains a preservative so it will last for over a week and can be melted and reused up to three times. Includes: 200ml which is enough to make 50 cups (12 litres) of gel.

Each



#### **Crackle Baff - Single Pack** CB5230-1 Each \$9.95

Make your bath water crackle and pop with this magical popping dust. Sprinkle some over your water and watch it bubble.



#### **Sensory Materials Kit** RE6560K \$49.95

Explore different types of sensory materials. This kit consists of one of each: solid water sensory gel (RE6560), Slime Baff (SB01-1), Crackle Baff (CB5230-1) and Gelli Baff (GS5143-1).

#### **Slime Baff - Single Pack** SB01-1 Each \$9.95

Make bath time fun with Slime Baff! Slime Baff is a powder that turns bath water into a gooey slime. When the fun is done simply turn the taps back on to dilute the slime. Slime Baff gives children a fun bath time, does not block drains and is kind on skin. Randomly supplied in different colours





#### **Gelli Baff - Single Pack** GE5143-1 Each \$9.95

Gelli Baff is a totally unique, fun, bath time product that lets you turn water into goo and back again! By adding Gelli Baff powder to water, you create a thick colourful goo. Add a second 'dissolver' powder, to turn the goo back to water! Randomly supplied in different colours.













#### **Block Play Simple Machines - Conveyor Belt** LS0202 \$79.95

Students move a wedge around to see if a change in angle makes work easier or more challenging! The conveyor belt measures 32cm long. Blocks not included.



#### **Machines - Elevator** LS0203 \$89.95

Students see how simple machines make work easier with our real-working wooden replicas! The wooden platform moves up and down with a spin of the knob. The elevator measures 23cm tall. Accessories not included.



akeshore **Block Play Simple** 

Machines - Sky Crane LS0204 \$99.95

Students turn the crank to activate the pulley system and watch the platform move up and down. The sky crane measures 33cm tall. Accessories not included.

<del>\$269.85</del>

SAVE \$29.90

**D**95



new

Students get hands-on experience with cause & effect as they raise and lower objects on an elevator, move blocks on a conveyor belt & more. Plus, they'll gain insight into how full-sized machines make big jobs easier. This kit includes one of each of the Conveyor Belt (LS0202), the Elevator (LS0203) and the Sky Crane (LS0204).



#### An easy-to-read story helps students take on our STEM challenge with confidence! The relatable characters in our storybook introduce the design elements that make a perfect tree house, inspiring students to jump right into building. We've included all the pieces students need to complete every step, so it's easy to read, plan and build. Includes a durable wooden tree, 138 plastic builders, 4 weighted people, a 20-page storybook and a guide. The tree is 50cm tall.

Free Freight Just add \$200 of Art & Craft, Stationery or Health & Hygiene to your order



LEARNING MATERIALS			Kit of 3
Design & Pl	ay STEAM Kit		\$4 7 0 95
LS570K	Kit	\$139.95	-T22.
LS571	Cars	\$62.95	SAVE \$22.90
LS572	Boats	\$49.95	
LS573	Planes	\$49.95	

Our craft kits let children create and customise real-working cars, boats and planes for a fun-filled introduction to early STEAM concepts! Ideal for integrating STEM with arts & crafts, each kit includes enough materials for 10 kids to engineer their own vehicle. Children just use the precut pieces to build each one, and customise it with their craft materials (not included). Then put it into action! As students test their creations, they'll explore ways to fine-tune each vehicle until they have a car that races, a boat that sails and a plane that soars! Available in a set of 3 (LS57K), or individually. Each set is supplied with a teacher's guide & the materials needed to create 10 working vehicles.

STEM Resources 2017



\$199.95

Students will love learning about the principles of colour through hands on Science, Technology, Engineering, Art and Maths incorporated activities in this kit. Kit includes an educators lesson guide and all the resources you need to introduce new concepts or reinforce topics in the classroom. Kit contents may vary.

#### This kit includes:

- Educators STEAM Activity Lesson Guide
- CS6250 Creatistics Watercolour Asst Colours Set 6
- EC723 Paint Pipettes 1ml Pack of 12
- EC110 Mixing Palette 10 Wells
- CS2050 Creatistics Dough Red 1kg Tub
- CS2053 Creatistics Dough Blue 1kg Tub
- CS2051 Creatistics Dough Yellow 1kg Tub
- CS2054 Creatistics Dough Orange 1kg Tub
- CS2052 Creatistics Dough Green 1kg Tub
- CS2055 Creatistics Dough Purple 1kg Tub
- EC370 Coloured Plastic Bowls Set of 6
- MD1134 Roymac Watercolour Paper 230 x 305mm Pad of 12
- RE5213 Colour Diffusing Paper 23 x 30cm Pack of 50
- CB842 Small Mist Bottles Set of 6
- K28L Heavy Duty 28L Storage Container



## Creative fun with sculpting your own toy!

## Carton Blocks – Creative Construction Set

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This Creative Construction Set includes a variety of items for the one with the richest imagination and creative ideas. Build your own toy with this creative construction set. It consists of at least 180 carton blocks, double and single blocks. It comes with crayons to draw and write anything you think of, rhinestones, joggle eyes, alphabet pasting pieces, glue sticks pack of 12 and glitter to use your imagination and create your own designed Gigi blocks! Easy to fold, adult assembly required. Contents may vary. Accessories not included.





Mta





Prices exclude GST



#### STEAM Kit – Science of Light & Colour AM4101 Kit \$259.95

This STEAM kit contains a complete range of essential art and craft products, plus an educators lesson guide with ideas for teaching concepts of Light and Colour in the classroom. Investigate, discover, create and reflect with this comprehensive range of products. Kit contents may vary.

#### This kit includes:

mta

- Educators STEAM Activity Lesson Guide
- SN6725 Kaleidoscope Student Kit Pack of 10
- MD2560 Magic Black Light Torch
- AM0514 Decorative Plastic Light Bulb Pack of 6
- TEB1212 Teachables Coloured Highlighters Set of 12
- CT8138 Flat Mirror Set of 10 21cm x 30cm
- EDU1311 Hexagonal HB Graphite Pencils Pack of 12
- MND4108 Drawing Paper Pad 9x12" 50 Sheets
- BY1048 Crayola Sidewalk Thick Chalk Box of 48
- FA0034-M Resealable Medium Plastic Bag Pack of 24
- CS1412 Round Bristle Paint Brushes Short Pack of 12
- IP0400 Paint Tray with 6 Pots
- TH891 Sunpaper Kit UV Reacting Paper
- TH880-FP Poster Paint Colour Fluoro Palette
- K28L Heavy Duty 28L Storage Container





#### Magic Black Light Torch MD2560 Kit

Use this super-bright hand-held black light torch for UV and glow STEM experiments or dark den settings. The magic black light shines invisible ultraviolet (UV) light which makes fluoro colours glow brightly and energises glow in the dark items so they glow brighter for longer. Torch comes with a bonus sample pack of fluoro modelling foam and 2 sets of joggle eyes, so you can make glow in the dark characters. 3 x AAA batteries required - not included.



9 x 12 inite

#### Kaleidoscope Kit SN6725 Pack of 10

\$9.95

\$39.95

Learn how to make your own kaleidoscope in this STEM/Science Activity Kit for kids. It's such a fun way to explore light, reflections, and symmetry. Contents include: kraft paper tubes, eye hole chambers, tall chambers, plastic mirrors, colourful tiles, lenses and instruction sheet. Size of kaleidoscope: 17.4 x 4 cm dia. Pack of 10. Age 3+



#### Sunpaper Kit – UV Reacting Paper TH891 \$40.95

This Sunpaper kit encourages an interest in the photographic process using only sun, water, and a bit of imagination. The paper goes through a chemical change when exposed to light. Place a fern, flower, or other objects on the special paper and set it in the sun briefly. Then rinse the paper in water and watch as a beautiful long-lasting image appears! Content: 15 sheets of 20 x 30cm.



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## **Animation Software**

**Complexity: Beginners** 

Extendibility: Add art and craft materials to create characters or use other figurines. The possibilities are endless!

Programming Language/Software: N/A

Compatibility: Windows XP/Vista/7/8 or Windows 10, Intel Mac, OS X version 10.8 or later

Age Group: 6+ years

Curriculum Links: ACTDEK004/13/23/34 - ACTDEP006/7/9/14/15/16/18/25/26/28/36/37/39

- ACTDIK001/7/14

## Create stop-motion animations!

OGOBILD – Animation Set with Camera					
OG001	Each	\$89.95			
OG001-5	Set of 5	\$399.95			
OG001-10	Set of 10	\$699.95			

The OGOBILD with Animate It! Kit contains a building kit with 103 construction parts to build your creatures. It also comes with an instruction book introducing stop motion animation, a steadymount webcam, and software certificate for the Animate It! Express software. The construction pieces include hands, feet, and much more to build lively characters, slick vehicles, and out-of-thisworld structures. The various connector pieces snap together providing strong yet flexible joints perfect for the delicate articulation required when creating stop motion animation. The software will guide you step-by-step through the world of stopmotion animation.

#### **Kit includes**

- 10x Animation software, cameras and construction pieces (OG001)
- Set of 6 Fluoro Dough 1kg each (CS2064)
- Pack of 550 assorted Joggle Eyes (TH321)
- Pack of 1000 assorted Pipe Cleaners (CL4704)
- Pack of 300 assorted Pom Poms (EC30S)
- Creative Soft Wire in assorted Colours - 30m (TH030)





matrix ogo/port:

The OGOBILD with Animate It! kit combines constructive play with stop motion animation movie making. Is an all-in-one kit for any student to start learning how to create their own stop-motion animated movies. Use the construction parts included to create personalised characters, or create your own with art and craft resources. The easy-to-use software and camera included will get you started straight out of the box!





## **Makey Makey**

mta

Complexity: From beginners to intermediate

Extendibility: add any material that conducts a tiny bit of electricity. The extendibility is endless!

Programming Language/Software: No software required. Makey Makey works with any software that uses the keyboard or mouse

Age Group: 8+ years

Curriculum Links: ACTDEK004/11/13/20/23/3447 -ACTDIK001/14 - ACTDEP007/16/26/37 - ACTDIP011/18



Makey Makey, the invention kit for everyone, is a simple circuit board that lets you reprogram the world by connecting everyday objects to a computer. Play Mario on Play-Doh or Pianos on Bananas. Makey Makey lets you rewire the world! Warning: extended use may result in creative confidence.

\$99.95

\$459.95

\$849.95

## Turn anything into a keyboard!

#### Makey Makey Classic

 MKK001
 Each

 MKK001-5
 Set of 5

 MKK001-10
 Set of 10

Makey Makey is an invention kit for the 21st century. Turn everyday objects into touchpads and combine them with the internet. It's a simple invention kit for beginners and experts doing art, engineering, and everything in between. You can connect up to 18 inputs to the Makey Makey (6 on the front and 12 on the back). Each set includes 1 Makey Makey, 7 Alligator Cables, USB Cord, 6 Connector Wires, 1 Tin Case, Stickers, and Instructions.

#### Key Features

- Turn everyday objects like bananas into touchpads
- Connect the world around you to your computer! Setup takes just seconds.
- Just plug, clip, and play. No programming knowledge needed.
- 1000s of possibilities. Draw your own game controller! Dance like never before!
- No software to install. Works with Mac and Windows
- 18 touch inputs
- Works with any material that can conduct at least a tiny bit of electricity
- Connects by USB



Set of 10

\$**849**95

SAVE \$149.55



magnet, 1 white alligator clip (2.5 ft), a keyring, and

instruction guide.

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### STEM Resources LittleBits





#### littleBits Gizmos & Gadgets Kit LIB680 \$429.95

The Gizmos & Gadgets Kit, 2nd Edition is the ultimate invention toolbox. It turns screen time into hands-on learning. The kit is bursting with motors, wheels, lights, servos everything you need to spark creativity and fun. Start with step-by-step instructions to build fun DIY games, cars, gadgets and more. Then tilt, shake, or tap your phone to make them do tricks! Create a car and let your phone do the steering. Or a caterpillar that crawls with the tap of a tablet!

#### **Key Features:**

- 13 electronic building blocks, instructions for 16 inventions, 1 challenge, and all the accessories and tools you need to unleash the inventor within.
- 1 huge invention guide get step-by-step instructions for inventions and challenges, plus ideas for spin-offs and totally new creations.
- Create inventions you control from a smartphone or tablet and turn screen time into hands-on learning.

#### **Modules included:**

**Double AND** - for projects in which you want two actions to trigger another

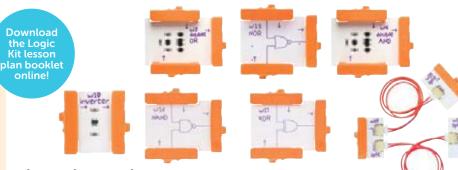
**Double OR** - when you want to detect two inputs but don't care which input is activated

**NAND** - when you need an output to go OFF when both inputs are triggered

 $\ensuremath{\text{NOR}}$  - when you want the output to be ON unless one or both of its inputs are triggered

**XOR** - for projects in which the activation requires input alternation

**Inverter** - use in combination with logic gates to change how the logic works. Place it after the output of a gate and change the logic completely. Place it before one input and change the logic going into the gate from that input.



#### littleBits Logic Modules

LIB800K	Set of 6 Modules	\$109.95
LIB820	Double OR Module	\$20.95
LIB821	Double AND Module	\$20.95
LIB824	Inverter Module	\$20.95
LIB825	NOR Module	\$20.95
LIB826	NAND Module	\$20.95
LIB827	XOR Module	\$20.95
LIB094	Split Wire	\$36.95

Logic modules create rules for your circuit to follow, enabling you to create more complex interactions. The logic modules should be used in combination with other littleBits modules like input, output and power modules (available on teaching.com. au). This kit consists of one of each of the 6 logic modules. Please note: The split wire (LIB094) is not included in the kit and sold separately.



#### littleBits Power Module LIB101 \$15.95

The power is the mother of all Bits modules! Just snap in the battery adapter that comes with it, flip the switch and you're ready to go. Includes: power Bits module, doublesided instruction card, and custom anti-static bag with resealable label.



#### littleBits Long LED Module LIB202 \$26.30

The long LED is a great lighting module. We call it the "long" LED because the light is tethered to the board by a cable. This lets you put the light in some interesting places. Includes: long LED Bits module, double-sided instruction card and custom anti-static bag with resealable label.



#### littleBits DC Motor Module LB205 \$39.95

The DC (or "Direct Current") motor rotates a shaft when you send it an ON signal. The left/ right switch controls the direction of rotation. Try attaching various things to make windmills, cars, helicopters, and more. Includes: DC motor Bits module, double-sided instruction card and custom anti-static bag with resealable label.



slide switch

## Switch Module

The slide switch is a small and convenient switch! It's one of our easiest switches to use. Turn it on to power up your invention, and then turn it off when you are done. Includes: slide switch Bits module, double-sided instruction card and custom anti-static bag with resealable label.



#### littleBits Wire Module LIB401 \$26.30

The wire allows you to physically separate your Bits modules. Try it whenever you need to break up your chain of modules, like when you need to put a light at the top of a model building. Includes: wire Bits module, doublesided instruction card and custom anti-static bag with resealable label.



LIB094

#### littleBits 9V Battery & Cable LIB512 \$10.95

This package contains a 9V alkaline battery and a cable to connect it to the power Bits module. Connect it up and then flip the switch to power all of your creations! Includes: 9V battery and 9V battery cable that connects to the power module, double-sided instruction card and custom anti-static bag with resealable label.





#### littleBits STEAM Student Set LIB847 \$499.95

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littleBits Arduino Coding Kit

\$259.95

LIB606

Sets you up for 16+ hours of STEM/STEAM teaching with 8 engaging challenges, and additional companion lessons. The set comes with 19 bits, 45 accessories and a booklet. We walk you through every step with comprehensive lessons and guides. Students engage with electronics by completing 8 challenges that progress in difficulty, with 10 companion lessons for educators. With the inclusion of Art in STEM, students are empowered to think creatively and design and engineer solutions to real-world problems. Comes with a 120+ page teacher guide. Find the full specs on our website.

## Bring STEAM learning to the classroom



A great way to get introduced to the world of the Arduino programming environment, without the breadboarding, soldering or wiring normally required.



Make your own Etch-a Sketch™!

#### **Includes:**

The kit includes everything you need to get started (battery + power included!) right out of the box.

littleBits

ARDUINO HE

- Build with 8 Getting Started sketches, including a DIY Etch-a-Sketch™, Mouse Control and hundreds more from Arduino's community!
- Communicate with software (Processing, MaxMSP, Flash etc.)
- Snap modules easily to 3 inputs and 3 outputs on the Arduino module, as well as additional I/O for advanced hardware interaction
- Download the Arduino software for free from www.arduino.cc

#### **Includes:**

- Activity booklet
- 9V Battery + cable
- MotorMate
- Screwdriver
- Power module
- Slide dimmer module
- Pressure sensor module
- Roller switch module
- Sound trigger module
- Pulse module
- Vibration motor module
- Servo module
- 2 x Long LED module
- Fan module
- Branch module
- 2 x Wire module



This kit contains everything you need to get started with electronics and programming. Make your

own Etch-a-Sketch™! Program a visual display! We'll walk you through the basics using the Arduino

programming environment, without the breadboarding, soldering or wiring normally required. Modules

included are a bargraph, button, power, fork, Arduino, battery & cable, 2 dimmers and a servo Bit, and 2

## LIB002

This set contains some of our absolute favourites, like the Slide Dimmer and the Servo Motor, so you can build the interactive creations you've been dreaming of. The Premium Kit is a sure-fire way to keep the creativity flowing! The set includes 14 littleBits modules.





### LEGO<sup>®</sup> Education WeDo 2.0 Curriculum Solution



This set is based upon the latest science standards and was created to enhance students' curiosity and science skills. The set is delivered in a storage bin along with sorting trays, labels, a Smarthub, a Medium Motor, Motion Sensor a Tilt Sensor and enough building elements for two students. The accompanying desktop and tablet supported software provides an easy-to-use programming environment and includes the WeDo 2.0 Curriculum Pack, which covers life, physical, earth and space sciences, as well as engineering. The accompanying eLearning program helps teachers to become confident users of the WeDo 2.0 Core Set.



**.** (www)

www

- WeDo 2.0 Core Set
- WeDo 2.0 Software &
- Curriculum Pack\*
- · WeDo 2.0 eLearning

## A captivating science teaching solution

#### What's included in the Curriculum Solution? No. OF L Core Set 🗸 Containing the LEGO® bricks and technology elements needed to make elementary students motivated and make science projects come to life. Curriculum Teaching Assessment elearning Technical software tools content program support Community Real life projects Intuitive software Project integrated Five eLearning Ongoing telephone and Access to the LEGO modules to give full including integrated online support to help Education community assessment grids and based on national standards to develop curriculum content, rubrics for both teacher teaching support from you with any questions. of teachers for students practices easy drag and drop and student led implementation to additional ideas, tips within science. programming and assessment activation \* and new connections. including engineering, teachers guide.\* technology and computing.\* What can I add on? Training and professional **Replacement Packs Complementary products** development Rechargeable power add-on solution for easy Check our Professional Learning calendar on The ideal way to replace key LEGO elements for battery management is available to supplement teaching.com.au to find training near you. the WeDo 2.0 sets. the WeDo 2.0 solution.

\*Available for free download from LEGOeducation.com/downloads





**m**T

Web teaching.com.au Freecall 1800 251 497 Freefax 1800 151 492

education

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## LEGO<sup>®</sup> Education WeDo 2.0 **STEM Resources**

<b>Classroom</b>	WeDo 2.0 Curriculum Solution LEG45300	WeDo 2.0 Add-On Power Pack LEG54838	MTA Storage System Single SUN8316 Brd Party Product NEW	MTA Storage System Double SUN8326 Broduct NEW
<b>Solutions</b> WeDo 2.0 Curriculum Solution Packs				
LEG45300-2K 4 students \$499.95 SAVE \$39.95	2		" A	•
LEG45300-2KP 4 students SAVE \$35.75	2	2		
<b>LEG45300-3K</b> 6 students <b>\$749.95</b> SAVE \$59.90	3			
LEG45300-3KP 6 students \$1,169.95 SAVE \$83.60	3	3		
LEG45300-5K 10 students \$1,229.95 SAVE \$119.80	5			
LEG45300-5KP 10 students \$1,939.95 SAVE \$149.30	5	5		
LEG45300-5KS 10 students \$1,329.95 SAVE \$169.75	5		1	
LEG45300-5KPS 10 students \$2,039.95 SAVE \$199.25	5	5	1	
LEG45300-8K 16 students \$1,929.95 SAVE \$299.65	8			
LEG45300-8KP 16 students \$2,999.95 SAVE \$342.85	8	8		
LEG45300-8KS 16 students \$2,079.95 SAVE \$299.60	8			1
LEE45300-8KPS 16 students \$3,149.95 SAVE \$412.80	8	8		1
<b>LEG45300-12K</b> 24 students <b>\$2,879.95</b> SAVE \$359.45	12			
LEG45300-12KP 24 students \$4,499.95 SAVE \$514.25	12	12		





## Prepare your students For tomorrow's jobs



## LEGO<sup>®</sup> MINDSTORMS<sup>®</sup> Education EV3 Curriculum Solution

LEG45544-1 \$629.95

This set contains everything you need to start teaching STEM and computer science using the exciting LEGO® MINDSTORMS® concept. It offers full teacher support, including STEM and computing teaching materials, and a comprehensive eLearning program.

The system includes the Intelligent EV3 Brick, a compact and powerful programmable computer that makes it possible to control motors and collect sensor feedback using the intuitive icon-based programming and data logging software that is delivered with the set.

The set is delivered in a sturdy storage bin with a sorting tray, three Servo Motors, five Sensors (Gyro, Ultrasonic, Colour and 2x Touch), a Rechargeable Battery, connecting cables and Building Instructions. Battery charger (LEG8887) is required and sold separately.

## **Solution includes**

1
<b>.</b>
www
www
www

## How to get ahead in STEM learning

The LEGO MINDSTORMS Education EV3 motivates students to design, build and program robots using motors, sensors, gears, wheels, axles and other technical components, to gain a better understanding of how technology works in real-world applications.

The solution enables students to understand and interpret two-dimensional drawings to create three-dimensional models; build, test, troubleshoot and revise designs; apply maths and science concepts on real-life applications; and master programming and data logging functions.





## mta

## LEGO<sup>®</sup> MINDSTORMS<sup>®</sup> Education EV3 STEM Resources

Classroom	LEGO Education EV3 Curriculum Solution LEG45544-1	Battery Charger LEG8887	Multi-Charger WLMC01	Robotics Training Mat ROB014	Robotics Challenge Mat ROB15	MTA Storage System Double SUN8327	MTA Storage System Triple SUN8337
Solutions	chastiente		3rd Party Product	3rd Party Product	3rd Party Product	3rd Party Product	3rd Party Product
EV3	221.22	§ 1					
Curriculum Solution Packs				$\bigcup$			
LEG45544-1K 2-3 students \$649.95 SAVE \$37.95	1	1					
LEG45544-4 8 students         \$2,599.95 SAVE \$253.60	4	4		1			
LEG45544-4S 8 students \$2,809.95 SAVE \$283.45	4	4		1		1	
LEG45544-5         \$3,249.95           10 students         SAVE \$291.50	5	5		1			
LEG45544-55 10 students \$3,399.95 SAVE \$381.35	5	5		1		1	
LEG45544-6         \$3,889.95           12 students         SAVE \$339.40	6	6		1			
LEG45544-6S 12 students \$4,039.95 SAVE \$429.25	6	6		1		1	
LEG45544-8         \$4,999.95           16 students         SAVE \$461.55	8		1	1			
LEG45544-8S 16 students \$5,199.95 SAVE \$571.35	8		1	1			1
LEG45544-10         \$6,239.95           20 students         SAVE \$481.45	10		1		1		
LEG45544-10S         \$6,539.95           20 students         SAVE \$661.15	10		1		1	2	
LEG45544-12 24 students \$7,399.95 SAVE \$901.30	12		2		1		
LEG45544-12S 24 students \$7,699.95 SAVE \$1,081.00	12		2		1	2	
LEG45544-15 30 students \$9,199.95 SAVE \$991.15	15		2		1		
LEG45544-15S 30 students \$9,599.95 SAVE \$1,210.75	15		2		1		2





## **mBot**

Complexity: Intermediate to lower-advanced

Extendibility: Fully compatible with Makeblock platform and LEGO compatible

Programming Language/Software: mBlock, Scratch 2.0, Arduino, Java

Compatibility: Bluetooth version: iOS 7 or above, Android<sup>™</sup>2.3 or above - 2.4G version: PC or Mac

Age Group: 8+ years

Curriculum Links: ACTDEK013/20/23/31/34/46

- ACTDEP014/15/16/18/25/26/28/36/37/39 ACTDIK007/14
- ACTDIP010/11/17/19/20/27/29/30/40/41

mBot is an all-in-one solution to enjoy the hands-on experience



of programming, electronics, and robotics. Working with mBlock inspired by Scratch 2.0, connecting with computers or smart devices via Bluetooth or 2.4G (different versions), this easy-to-assemble mBot provides infinite possibilities for you to learn STEM.



Makebl**¢ck** 

comes with various basic pre-assembled options, including obstacle-avoidance car, line-following vehicle, remote control car, and can be used in multiple games.

- Infinite extensibility, using any mechanical parts and electronic modules
- Change from Bluetooth to 2.4G or vice versa by adding the 2.4G Wireless serial (MB13030) or the Bluetooth Module (MB13035), sold separately. See page 20.





## **mBot Ranger**

Complexity: Intermediate to advanced

Extendibility: Fully compatible with Makeblock platform

Programming Language/Software: mBlock, Makeblock HD, Scratch 2.0, Arduino, Java

Compatibility: Apple tablets: iOS 7.0 or later - Apple smartphone: iOS 8.0 or later - Android tablets/phones: Android 3.0 or later

Age Group: 8+ years

Curriculum Links: ACTDEK013/20/23/31/34/46

- ACTDEP014/15/16/18/25/26/28/35/36/37/38/39/49 - ACTDIK007/14

- ACTDIP010/11/17/19/20/22/27/29/30/40/41

mBot Ranger Robot Kit is a threein-one STEM educational robot kit, which supports 3 building forms: robot tank, three-wheel



racing car, and a self-balance car. Program & Control mBot Ranger via iPad, tablets, or laptop to start your exploration! Fine readyto-use projects built-in the Makeblock HD app for immediate fun and play. mBot Ranger is fully compatible with mBlock to program on your PC or program from your iPad and tablets with an easy-to-use app -Makeblock HD.



Makebl**¢ck** 



Makeblock - mBot Ranger - STEM Robot				
Each	\$339.95			
Set of 5	\$1,599.95			
Set of 10	\$3,099.95			
	Each Set of 5			

The mBot Ranger comes with the Me Auriga mainboard based on open-source Arduino Mega 2560. It provides not only 6 on-board sensors, but also 10 extension ports that enables you to add more motors and sensors when needed.



#### **Key Features**

- Input: 6 x sensors: Light sensor, ultrasonic sensor, line follower, gyroscope, temp sensor, and sound sensor
- Output: buzzer, 12 LED lights, 2 motors
- Me Auriga main board with 10 ports, supporting DC motors, stepper motors, servo motors, smart servos, encoder motors, etc. (4 ports supporting up to 3.5A output, 6 ports supporting 5V 2.4A output)
- Compatible with Arduino Ide and RJ25 ports
- Supports Bluetooth and Bluetooth upgrade firmware





## Cubetto

#### **Complexity: Beginners**

Extendibility: Add the adventure pack for more activities Programming Language/Software: The instruction blocks in combination with the interface board. Based on Arduino.

Age Group: Ages 3 to 6 years Curriculum Links: ACTDEK004/34 - CTDEP006/7/9/15/16/18 - ACTDIK001/2 - ACTDIP004/10

## PRIMO



Cubetto is a playful wooden robot that helps young children (3+) discover programming through storytelling, adventure and collaboration. It's the first coding toy of its kind to work without a screen or digital interface, and lets children learn to code before they can read or write.



Cubetto is made up of 3 separate elements: a friendly wooden robot, a tangible interface board, and a 16 piece instructions blocks set that make up a programming language you can touch. The playset comes with a charmingly illustrated 1x1m world map and story book that make every play session with Cubetto a unique and memorable adventure. Children use the instruction blocks (forward, left, right and function) on the interface board to create a sequence. Cubetto and the Interface board communicate wirelessly, and Cubetto is powered by 6 AA batteries.

This set consists of 16 additional instruction blocks

to either replace missing blocks or expand your

current set. The blocks are supplied in a handy

storage bag.

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### **Cubetto STEM Resources**







#### Cubetto Adventure Pack - 4 Maps & Story Books CUB003 Each Pack \$59.95

Add more creativity and value to Cubetto with this adventure pack. Included are 4 additional maps (1x1m each) and 4 story books, accompanying the maps.







## **3D Printers**

Complexity: Beginners to advanced

Extendibility: Use the handheld scanner (not

included) to scan and print any object. Print parts for the Humanoid Bolide (not included and sold separately) to create your own personalised robot.

Programming Language/Software: XYZware (File types: .stl and XYZ Format (.3w))

Compatibility: Windows 7 and above, Max OSX 10.8 and above (64-bit) Age Group: 8+ years

Curriculum Links: ACTDEK004/13/34/43

- ACTDEP005/6/7/14/15/16/24/25/26/35/36/37/48/49/50

Become your own manufacturer and create 3D objects with ease. XYZ 3D printers come with XYZware which is software for designing, customising, and printing digital 3D models. 3D printing allows for exploration of objects that might not be readily available in the classroom, improves design skills and production processes, and allows students to analyse a prototype they have build. 3D printers are the future for STEM related core lessons.

#### Da Vinci JNR 1.0 3D Printer by XYZprinting MTT0173JR \$699.95

Big things come in small packages. Don't let its slimmer and lighter look fool you, the da Vinci Jr. has a robust build size of 15 x 15 x 15cm and a resolution of 100 to 400 microns. Its design allows for the inclusion of an auto-feeding filament system, which takes the PLA filament to the extruder, and ensures that the filament is loaded properly and is ready to print.

#### **Key Features**

- Safety-enclosure Enclosed printing area and non-heating bed
- Stand Alone Built-in SD card slot allows users to print from SD card directly
- Easy Loading Filament
- Eco-Friendly Supports PLA material, the most highly efficient biodegradable plastics
- USB connection for printing from your PC
- Single nozzle with print mode 100 400
  microns
- Supported operating systems include: Windows 7 and above, Mac OSX 10.8 and above (64-bit)



#### Da Vinci 1.0A 3D Printer by XYZ Printing MTT01731 \$999.95

Big with its robust build size of 20x20x20cm, the da Vinci 1.0 is on average 69% bigger than all competing 3D printers for a fraction of the cost! The da Vinci 1.0 is ready-to-go right out of the box. This plug-and-play 3D printer features easy-to-Install filament cartridges for quick refills and filament swaps. It features a fully-enclosed design which protects the users from the high temperatures required to print.

#### **Key Features**

- Safety-enclosure The enclosed printing area bed ensures a safe printing environment
- Plug-and-Play printer. No assembly required
- Easy Loading Filament Makes filament detecting and replacing easy
- USB connection for printing from your PC
- Single nozzle with print mode 100 400 microns
- Supported operating systems include: Windows 7 and above, Mac OSX 10.8 and above (64-bit)
- ABS & PLA filament with a diameter of 1.75 mm



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#### Handheld 3D Scanner by XYZprinting MTT0173S \$429.95

Powered by Intel RealSense Technology, the Handheld 3D Scanner is fast in both scanning ability and processing speed. It allows for great scanning result and reliability. It is able to clip-on the back of a tablet, laptop, or any other device with a USB 3.0 connection for high mobility. Fully integrated with XYZprinting's 3D printers, users can print their desired objects directly from their laptops at any time, or share it digitally. Visit our website for full specs and compatibility with your device.





#### Da Vinci 3D Printer Classroom Pack MTT1073K \$5,299,90

The ideal classroom kit for all your 3D printing needs. This kit includes 5x Da Vinci Jnr 1.0 3D printers, 1x Da Vinci 1.0A 3D printer, 1x handheld 3D scanner and a selection of 9x different PLA filaments suitable for the Da Vinci Jnr, and 2x ABS and 2x PLA filaments suitable for the Da Vinci 1.0A.



#### Da Vinci 1.0 3D Printer Pro 3-in-1 by XYZprinting MTT0173-P \$1,799.95

With a built-in scanner, optional laser engraving add-on capability, and an open source filament system that allows you to print in third-party ABS and PLA 1.75mm filaments, the da Vinci Pro 3-in-1 is the perfect machine for becoming your own manufacturer.

#### Filaments Each \$59.95

Create colourful projects with a wide range of coloured filaments. The DaVinci Junior 3D printer can be used with PLA filaments, the DaVinci 1.0A 3D printer can be used with both PLA and ABS filaments. Each filament is 600 gram. Ventilation is required when using ABS. For a full comparison of PLA and ABS, please refer to our website.

#### DaVinci 1.0A & Pro 3-in-1 PLA Filament

MTT0173B	Black
MTT0173N	Nature
MTT0173TA	Tangerine
MTT0173CY	Clear Yellow
MTT0173NG	Neon Green
MTT0173CG	Clear Green



100

#### **Specifications Scanner**

- 360-degree automatic rotating platform
- Dual-laser scanning technology for distortion-free capture of every single detail
- Automatic imaging takes only 5 minutes
- Finished scans are fully editable
- Multi-scan function: Scan your models in multiple angles and the software will merge them into one image to provide the best possible results

#### **Specifications Printer**

- 20 x 20 x 19cm print dimensions
- The aluminium print bed allows for an even distribution of heat
- Capable of using third party 1.75mm ABS and PLA filament
- New and intuitive calibration system that uses
   specially designed knobs and detection software
   for easy use

#### DaVinci 1.0A & Pro 3-in-1 ABS Filament

MTT0173ABK	Black
MTT0173ASW	Snow White
MTT0173AVT	Violet
MTT0173AGP	Grape Purple
MTT0173ASB	Steel Blue
MTT0173AV	Viridity
MTT0173ABG	Bottle Green
MTT0173AO	Olivine
MTT0173ACY	Cyber Yellow
MTT0173ANY	Neon Yellow
MTT0173AYW	Yellow
MTT0173ASO	Sun Orange
MTT0173ARD	Red
MTT0173ANM	Neon Magenta

#### **Da Vinci Junior PLA Filament** MTT0173PB Black MTT0173PPW Pearl White MTT0173PN Nature MTT0173PR Red MTT0173PCT **Clear Tangerine** MTT0173PY Yellow MTT0173PNG Neon Green Clear Green MTT0173PCG MTT0173PCB **Clear Blue**

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#### MakerSpace Kit MB99061M 1455 pieces

\$9,999.95

Makeblock is a block-building platform including more than 300 types of metal building blocks, electronic modules and software as well as an open-source creavitity platform including various classic creativity kits. The Makerspace Kit consists of 11 types of kits, packed into 17 boxes of mechanical parts, electronic parts and tools and accessories. Scientifically proportioned and flexibly configurable, the kit is designed for various ages and educational institutions. Software is also provided for MakerSpace, including complete instructions, integrated operation plans and workshop cases of different difficulties. For a full list of components included in this kit, please refer to our website.

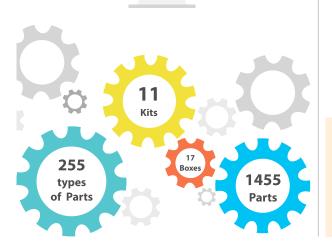
## **Makebl¢ck**





## High-strength aluminium alloy material

Most of the Makeblock parts are made of 6061 aluminium alloy, which is bright in colour, reliable in quality and sturdy in construction.





#### **Open compatibility**

Makeblock is compatible with various common industrial standard components, e.g. bearing, timing belt, stepper motor, etc. as well as parts of teh LEGO building blocks, so you are able to select your required parts within a wide range at low cost.



#### Unique thread groove design

Makeblock's well-designed thread grooves making it easier to connect at any position without any nuts, so the parts can be connected with endless variations like with LEGO blocks. Infinite part combinations support vaious modes of transmission and motion to meet various needs.



Lowering the threshold of entry

Makeblock works with the unique RJ25 adaptors and has a colour coded system. This makes it easy to connect a variety of motors and sensors without soldering.

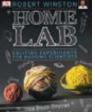






#### Home Lab: Make Your Own Science **Experiments** PEN8449 \$32.95

Stir up some sticky slime, build a Solar System with rubber bands, power a speed boat using soap, and construct an erupting volcano. Home Lab is packed with 28 brilliant projects, using clear stepby-step instructions, everyday ingredients that can be found around the house.



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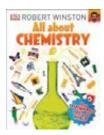
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#### **101** Great Science **Experiments** PEN5131 \$18.95

With 101 science experiments for kids inside covering topics such as colour, magnets, senses, electricity and much more you'll be discovering the laws of science before your eyes.





#### All About Chemistry PEN6577 \$21.95

All About Chemistry takes an amazing look at the what, why and how of science. From the geeky Greeks to explosive elements kids can enter a world of discovery as they find out the extraordinary way our world works. It's chemistry, but not as you know it.



#### Coding in Scratch for **Games Made Easy PEN3269** \$14.95

Coding in Scratch for Games Made Easy is an engaging, fun guide to coding games in Scratch, the easy-to-use (and free to download!) visual code that provides a gateway to more complicated coding languages.



#### **Coding With Scratch** Made Easy **PEN3276** \$14.95

Coding with Scratch Made Easy is a playful, handson introduction to working with Scratch, the easyto-use - and free to download! - visual code that provides a gateway to more complicated coding languages.





#### **How Super Cool Stuff Works** PEN8456 \$42.95

How Super Cool Stuff Works is a cutting edge guide exploring how incredible new technologies are shaping the modern world. Kids will love the fun laptop style cover and layout throughout.



# David Macaulay

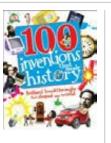
#### How Machines Work PEN3385 \$37.95

How Machines Work uses pop-ups and awardwinning illustrations to demonstrate the technology of six simple machines. How Machines Work will gear kids up for scientific and engineering areatness!



### That Made History \$29.95

history book. Take a look at the trailblazing inventions that have advanced technology and transformed the way we live, as well as the gadgets and gizmos we couldn't live without!







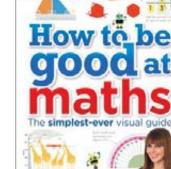
#### 365 Things to Do with LEGO<sup>®</sup> Bricks PEN9259 \$32.95

365 Things to do with LEGO® Bricks inspires you to look at your LEGO bricks in new and exciting ways and enjoy LEGO fun every day of the year.



#### How to be Good at Maths **PEN5988** \$37.95

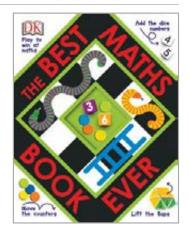
How to be Good at Maths, the simplest-ever visual guide to maths. Unlike other maths workbooks How to be Good at Maths introduces each topic with colourful pictures, real-life examples and fascinating facts, ideal for reluctant mathematicians or revising before a test making maths is fun and easy.





#### **Best Maths Book Ever** PEN2395 \$28.95

The amazing interactive paper engineering in The Best Maths Book Ever will capture and hold your child's attention, making practising maths and play one and the same. Kids will learn key maths concepts while having a blast. Everybody wins with The Best Maths Book Ever.



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## Makerspace Design & Create Kit

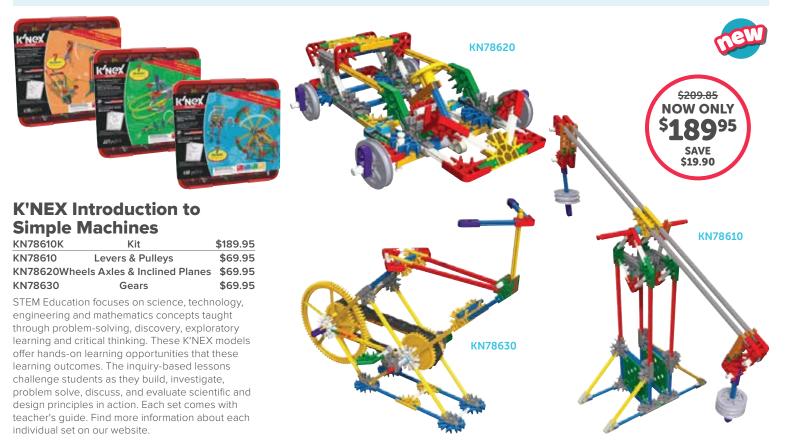
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This kit is a great introductory set to combine design, art, technology, engineering, maths and science and to start building. Whether this is a craft project, to design a perfect architectural structure, a 3D maths shape, accesory, bridge, tower or anything else your imagination guides you.

#### Kit includes

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