LEGO® Education Catalogue 2016

Playful learning experiences that enable every student to succeed

Preschool
Elementary
Middle School

LEGOeducation.com

LEGO education

Welcome to LEGO® Education

LEGO® Education, in partnership with educators for more than 35 years, offers playful learning experiences to help every student to succeed. Our full range of educational solutions are based on the LEGO® system of bricks, curriculum-relevant material, and physical and digital resources targeted for preschool, elementary, middle school, and afterschool. We provide curriculum from Humanities and Language Arts to Science, Technology, Engineering and Math (STEM). We believe in building academic, innovation and life skills as well as expanding children's knowledge to create lifelong learners.

We impact student's learning as they grow and strive to fully engage every type of learner. In preschool, LEGO Education solutions stimulate children's curiosity to explore together and learn through play. During elementary, we help educators lay the foundation for students to become engaged during their school day by igniting enthusiastic, effective, and lifelong learning. By middle school, we grow critical thinking and creativity of all students to understand challenging subjects, encourage them to develop problem solving skills, grow their ideas, and make their own creations. In afterschool, we unfold each child's potential through specifically designed workbooks to best facilitate each child's learning and provide regular feedback to parents.

We all want our children to be successful in their endeavors, academically and personal. At LEGO® Education, we take the pursuit of hands-on learning very serious. We do this in conjunction with educators who play a critical role in encouraging student's budding interest during the span of their academic careers. Together, we can support our students in an inspiring, engaging and effective way, encouraging them to become active, collaborative learners, build skills for future challenges and establish a positive mind-set toward learning. We hope, as educators, you are inspired by the following pages and what can happen in your classrooms.

Warmest regards,

LEGO Education

Contents

In this catalogue you will find a description of our learning solutions listed according to subjects and segments, Preschool, Elementary School and Middle School. Please note our new engaging solution WeDo 2.0, with which you and your students can make science come to life.

NEW
Make science come to life. See pages 43-48.

Impactful teaching and playful learning through unique hands-on solutions

We provide a distinctive experience for teachers and students that combines focused curriculum content, the LEGO® system of bricks and digital components with our unique principles for teaching and hands-on learning.

This is achieved by:
An offering of extensive training, professional development, classroom management and customer services to teachers and administrators worldwide, to fully understand the versatility and applicability of LEGO® Education teaching and learning resources.

LEGO® Education teaching and learning resources

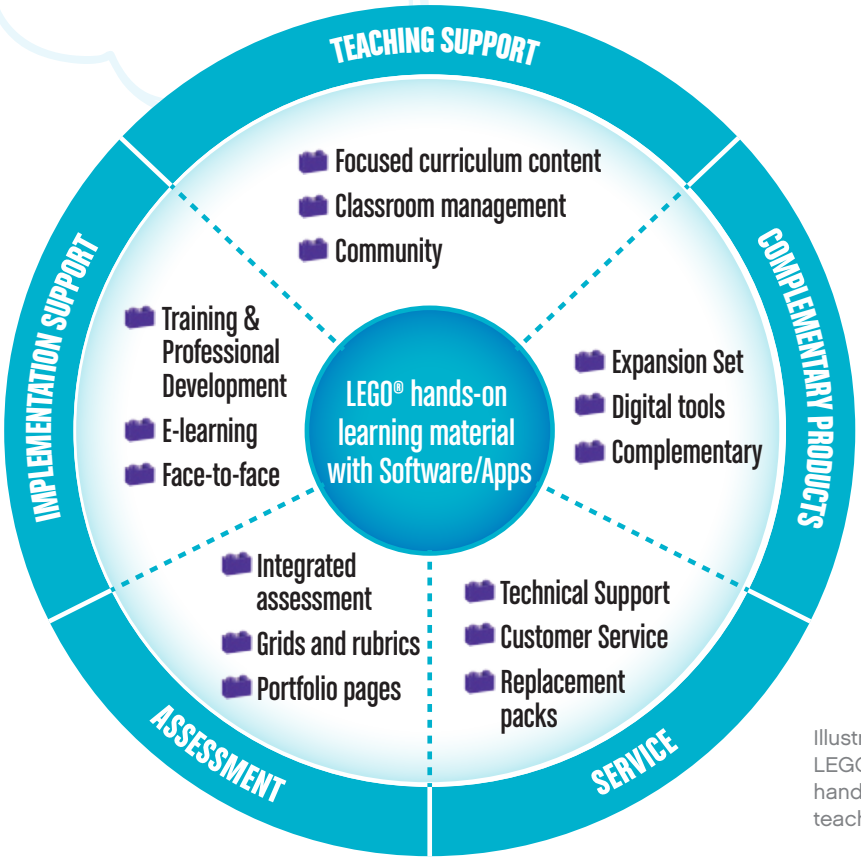
LEGO® hands-on learning material with software/apps
Our approach combines the LEGO system of bricks with core software for computers and apps for tablets/mobile devices. With relevant curriculum content to get started easily, your classroom will soon be up and running.

Focused curriculum content with integrated assessment
We provide subject specific curriculum material built on national standards. You will have all the support you need with lesson plans, teacher guides, student material, tutorials, differentiated tasks and ideas for classroom management.

Complementary resources
Building on our core solutions, our expansion sets, extra sensors and digital tools for documentation and assessment, allow you to extend learning opportunities to meet the needs of your students while rechargeable batteries simply make classroom management easier.

Training & professional development
We can provide a range of training options, from basic to advanced levels. With e-learning or on-site opportunities, you can find a blend that meets your needs. Plus with the LEGO Education Community for educators, you can always call on the experience of teachers working in classrooms just like yours.

Technical support and customer service
Online and telephone support is available for brick replacement, software-related queries or general technical questions. We will be there to support you before purchase, during purchase and after purchase.



Illustrative model representing LEGO® Education's unique hands-on solution for impactful teaching and playful learning

Engaging and effective teachers

LEGO® Education provides a continuum of curriculum that is relevant to students' everyday lives and real-world contexts as well as expandable for teachers. From preschool through middle school, the content is created by a full development team of educators and education experts.

We offer resources for teaching science, technology, engineering and math as well as educational resources to address humanities, language and literacy.

Based on more than 35 years of research and close collaboration with teachers worldwide, we strive to enable teachers to achieve four fundamental outcomes:

- **A positive mindset to learning**
- **More skillful learners**
- **More knowledgeable students**
- **Student success**

LEGO® Education Online

Discover resources
Browse the full range of LEGO® Education resources for various ages and subject areas.

Engage on social networking
Join LEGO Education on Facebook, Twitter, Pinterest, Instagram and YouTube to share your ideas, see the latest LEGO Education news and solutions and engage with educators around the world.

Search distributors
Find your nearest distributor of LEGO Education resources.

Develop as an educator
Get the knowledge you need to support your students' learning.

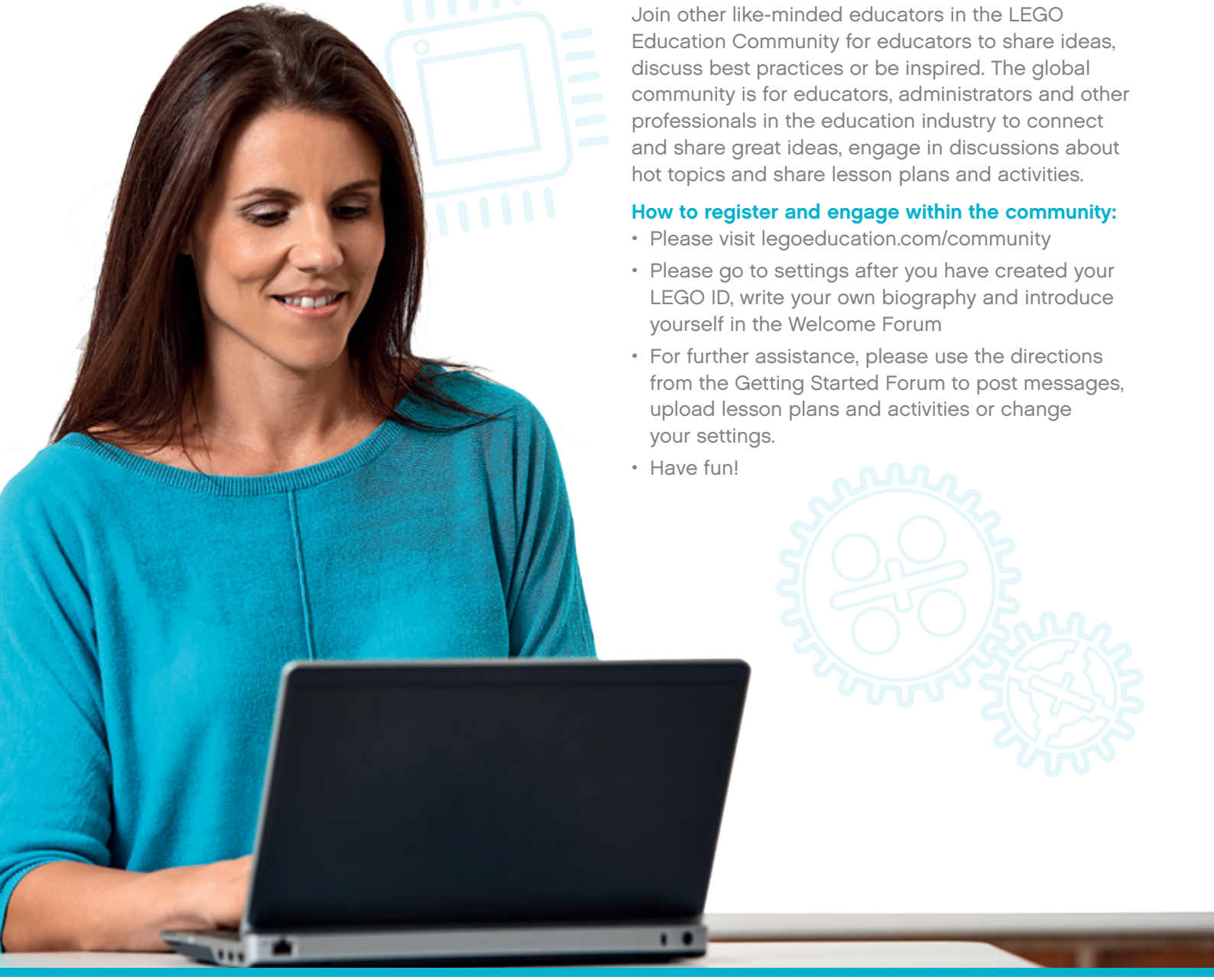
Learn more about After-school Programs
See how students' learning can continue through our network of LEGO Education Learning Centres.

Understand LEGO Education
Learn more about our teaching and learning approach, our philosophy, organization and connection to The LEGO Group.

Find Support
Find the latest downloads, activities, software, updates FAQs and more online.

Share with other teachers
Join other like-minded educators in the LEGO Education Community for educators to share ideas, discuss best practices or be inspired. The global community is for educators, administrators and other professionals in the education industry to connect and share great ideas, engage in discussions about hot topics and share lesson plans and activities.

How to register and engage within the community:
- Please visit legoeducation.com/community
- Please go to settings after you have created your LEGO ID, write your own biography and introduce yourself in the Welcome Forum
- For further assistance, please use the directions from the Getting Started Forum to post messages, upload lesson plans and activities or change your settings.
- Have fun!



Professional development

E-learning

The LEGO® Education E-learning solution is built on many hours of testing and hundreds of teachers input, creating the most user-friendly content and structure – all with the goal of making it an easy and efficient solution for teaching you how to utilize your LEGO Education solution in the classroom. The E-Learning programs all offer the following opportunities:

- Download extensive teacher resources: Includes curriculum relevant materials, sample programs and building instructions.
- Testing and certification: Shows when you are ready to begin teaching with your LEGO Education solution.
- Site License: Share with all relevant staff at the purchasing institution.
- Web-based: Access from anywhere, anytime using PC, MAC and tablets.
- Video Tutorials: Access videos created by LEGO Education Master Trainers.

"I had a great time. I cannot wait to implement this into my classroom."

"We have a lot of decisions to make regarding the implementation of the EV3 in our classes. We have taken some valuable information from this workshoip to begin the decision process."

"What a fantastic day! The material was fun and challenging and we enjoyed every minute of it!"

Face-to-Face

LEGO® Education Face-to-Face training courses introduce educators to their specific LEGO Education solution(s). The course is specially designed to match the needs and requirements of the school based on a detailed dialogue between the school and the LEGO Education trainer. The Face-to-Face training course is made to ensure that the participants become specialists of their LEGO Education solution. The benefits of Face-To-Face training include:

- Training course will ensure that LEGO Education solutions are used and utilized in the best possible way.
- The training is curriculum relevant so teachers learn how to use LEGO Education solutions in relation to curriculum targets.
- Educators will learn how to design their own lessons with LEGO Education solutions.
- All training tutorials are carried out by certified LEGO Education Master trainers who, by background, are educators.

Engage preschool, elementary and secondary students in subjects from science to humanities

LEGO® Education provides a continuum of curriculum content that is relevant to students' everyday lives and real-world contexts as well as expandable for teachers. From preschool through middle school, the content is created by a full development team of educators and education experts. We offer resources for teaching science, technology, engineering and math as well as educational resources, to address humanities, language and literacy.

Key icons to look out for:

- **Piece Count** Total number of elements
- **Storage** Storage box included
- **Group Sets** Recommended number of pupils for using a single set
- **Web Resources** More information and resources available at LEGOeducation.co.uk
- **Age Range** Suitable age range of set

	Cross All Curriculum	Math	Language & Literacy	Social Studies	Technology	Science	Engineering	Computing
Middleschool Ages 11-15				BuildToExpress	LEGO® MINDSTORMS® Education / Machines&Mechanisms			
Elementary Ages 5-10	LearnToLearn	MoreToMath	StoryStarter	BuildToExpress	Machines&Mechanisms	WeDo		
Preschool Ages 3-5	Preschool							
Afterschool Ages 3-15		Afterschool						

FIND OUT ABOUT LEGO® EDUCATION ON LEGOeducation.com

LEGO® Education Preschool

Stimulate children's curiosity to explore together and learn through play

LEGO® Education Preschool

SO MANY WAYS TO LEARN. TOGETHER

NEW:
Build Me "Emotions"
See more on page 11

Preschool

We support teachers to reach all children as they play and learn together

LEGO® Education enables every child to succeed in preschool by stimulating children's curiosity to explore together and learn through play. We offer preschool professionals relevant hands-on solutions, suitable for both free play and play with a more structured learning objective based on the safe LEGO system and developed in collaboration with educational experts. Our solutions engage and enable children to explore the world and discover their own capabilities through effective, **playful learning experiences,** helping them build fundamental skills for school readiness and for life.

let's create engaging and effective playful learning experiences together

Share your Feelings

Build Me "Emotions"

45018

1-8 | 188 | www | 3-5 yrs

Build Me "Emotions" invites preschoolers to explore emotions and physical characteristics in a fun and engaging way. As children collaborate on a range of character building experiences, they recognize feelings and identify similarities and differences. Building cards provide support and inspiration so children can continue to build and rebuild characters again and again!

Why buy me?

- A variety of shapes and exciting colours
- Includes unique bricks with various facial expressions
- 8 double-sided cards provide 16 character-templates
- An activity card with inspirational teaching ideas
- Online videos offer even more engaging activity ideas

NEW

Unlock children's imaginations

Creative LEGO® DUPLO® Brick Set

45019

1-6 | 160 | www | 3-5 yrs

Set children's creativity free with this imaginative LEGO® DUPLO® Brick Set. Not only will it inspire big ideas in young minds, it will encourage self-expression and develop fine motor skills as they build, deconstruct, and build again. Building cards provide support and inspiration so children can enjoy endless building fun!

Why buy me?

- 160 LEGO® DUPLO® bricks in a variety of exciting colours
- 6 double-sided building cards for support and inspiration
- An activity card with inspirational teaching ideas
- Online videos offer even more engaging activity ideas

TIP:
Combine Build Me "Emotions" with Creative LEGO® DUPLO® Brick Set for even more playful learning experiences

Tech Machines

45002 | 1-6 | 91 | www | 3-6 yrs

Transform your children into expert builders! With the Tech Machines set in your classroom, you'll help children develop their fine motor and problem solving skills while simultaneously unleashing their creativity as they construct classic machines.

Why buy me?

- Introduces young minds to basic engineering concepts
- Includes 4 screwdrivers
- Includes 2 inspirational building cards
- Includes an activity booklet with quick ideas

LE Replacement Pack Screwdriver

2000713 | 1 | 3-6 yrs

All aboard the early math express!

Math Train

45008 | 1-8 | 167 | www | 2-5 yrs

Discover counting, patterning and simple addition and subtraction with a fun and imaginative set that also teaches the purpose of stations and trains. Children will role-play exciting transportation scenarios as they use the crane to load and unload colorful train cargo and construct stations along a delivery route that they create!

Why buy me?

- Teaches basic math skills as it explores transportation
- Includes 3 double-sided math activity cards
- Includes 3 online activity videos with quick starter ideas related to the activity cards

Give them a taste for playful math

TIP:
Build your café, restaurant or kitchen with the LEGO® Soft Brick Set

Café+

45004 1-6 | 131 | www | 3-6 yrs

Stimulate children to play and collaborate as they construct various food items and learn to sort, count, match and pattern. The unique and colorful bricks, as well as menu and recipe cards, inspire language and role play around restaurants, shopping and people's needs. Children will naturally be practicing basic math as they play with this engaging set.

Why buy me?

- Integrates with any shop or kitchen area present in your preschool
- Includes a menu card and 5 recipe cards which encourage collaboration, role play, and building
- Includes activity cards with inspirational teaching ideas

LEGO® Soft Brick Set

45003 1-6 | 84 | www | 2-5 yrs

This award-winning set is packed with standard and curved LEGO® Soft elements that make it easy for children to develop physical skills and spatial awareness as they build life-sized figures, walls, towers, and obstacle courses. This set encourages exploration of space, shape, and colour while it also develops gross motor skills. Observe as children creatively set the scene and retell stories using these unique bricks.

Tubes Experiment Set

9076 1-6 | 147 | www | 1½+ yrs

Children love to find out how things work! With the Tubes Experiment Set, they'll develop fine motor and problem solving skills while discovering creative new ways to construct the tubes. The set also ignites their inner scientist as they investigate, construct, and test important concepts like cause and effect.

Why buy me?

- Ideal for exploring the concepts of cause and effect, position and weight
- Includes 142 bricks, balls and unique tube elements for constructing tube slides, stairs, and a see-saw
- Includes 4 double-sided inspiration cards

Playground

45001 1-6 | 104 | www | 2-5 yrs

Deepen children's understanding of relationships as they construct a familiar place where they can explore the concepts of friendship, feelings and community. The set encourages creative play and imaginative storytelling as it inspires children to role play around important and practical ideas like sharing equipment, conflict resolution, and playground safety.

Why buy me?

- Encourages creative play, imaginative storytelling and use of language related to shape, color, and position
- Includes 2 inspirational building cards with building instructions for 2 pieces of playground equipment
- Includes an activity booklet with quick ideas

LEGO education

This is my story

StoryTales

45005

1-6 | 109 | www | 3-6 yrs

Promote creativity, imaginative storytelling and language development with this unique and engaging storytelling set. Children will naturally collaborate and develop speaking and listening skills as they build their stories and role play. Anyone can tell a story with StoryTales!

Why buy me?

- Especially designed for storytelling
- Includes a variety of unique bricks and characters
- Includes activity cards with inspirational teaching ideas

What makes us different and alike?

World People Set

45011

1-6 | 16 | www | 2-5 yrs

The World People Set is a powerful tool which encourages discussions about respecting similarities and differences among people. The set invites children to role play with four different families and opens their minds to exploring cultures, gender, age and family relationships.

1:1

The building possibilities are endless

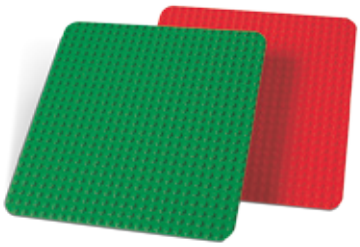
XL LEGO® DUPLO® Brick Set

9090

With 550 elements, this set is a dream come true for children to explore their creative potential by building all sorts of environments and models. Features illustrations of suggested models and a world of figures and special elements.

Why buy me?

- Great for large group construction and creativity
- Includes 562 bricks, shapes and characters
- Includes 2 double-sided inspiration cards with model and building ideas



Large LEGO DUPLO Building plates

9071

Two large building plates - one red, one green - provide the perfect foundation for learning through play. Can be used with all kinds of LEGO® DUPLO® based products. Size 38 x 38 cm.

Large Farm

45007 | 1-6 | 154 | www | 2-5 yrs

What's life like on a farm? With the Large Farm Set, you can explore together! The set invites children to construct and role play in this exciting world as they build their collaborative and language skills. They can even work on early math skills by sorting and categorizing the animals.

Why buy me?

- 154-piece set includes bricks to create structures such as a farmhouse, barn and henhouse
- Includes activity cards with quick starter ideas

Explore wild animals and their habitats

Wild Animals Set

45012 | 1-6 | 104 | www | 2-5 yrs

Invite children to explore the world through animals, animal families and habitats. As children construct a home and setting for each animal, they will learn about what animals need to survive and how they are different from one another. You can even introduce early math through sorting and categorizing activities. The possibilities are endless!

Community People Set

45010

1-6 | 21 | www | 2-5 yrs

Use the Community People Set to introduce preschoolers to different people and occupations. With 20 unique LEGO® DUPLO® figures, children will explore important topics, such as gender, age, relationships and the unique roles and responsibilities of people in the community. The set invites children to role play, giving each character a distinct voice. In addition, the set has a wheelchair that will help them explore the needs of others.

Use Community People Set to enhance role play in other sets

Why buy me?

- Construct environments that explore the meaning of transportation, home and community
- 224-piece set includes LEGO® DUPLO® bricks and special elements like windows, wheels and figures
- Combine with the Community People Set (45010) for even more elaborate environments

Town Set

9230

1-8 | 226 | www | 1½+ yrs

Invite children to build the town of their dreams! The Town Set develops children's creative and collaborative skills as they construct urban environments. As you discuss buildings, transportation and other topics, children will explore the world around them and discover what it means to be part of a community.

Exploring the world

Multi Vehicles Set

45006

1-6 | 32 | 2-5 yrs

Explore the world through the power of creative play! By role playing both familiar and new exciting travel scenarios, children will learn about transportation, discover the importance of interpersonal relationships and explore our place in the wider world. It also is a great way to expand existing LEGO® DUPLO® sets!

Why buy me?

- Develops a focus on community services and how each person makes a contribution to community life
- Mix and match pieces to create a family car, police car, tractor and other familiar vehicles
- Great addition to any LEGO® DUPLO® set

Animal Bingo

45009

1-6 | 49 | www | 2-5 yrs

Everyone is a winner with Animal Bingo! Children will explore collaborative play, follow game rules and take turns as they build the colorful animal models depicted on the game cards. They will engage in shape and color recognition, match and count animals, and learn to follow instructions in a fun and engaging way.

Why buy me?

- Features visual instruction detailing how to play the game
- Includes 8 double-sided game cards featuring 16 animal models
- Includes 3 online videos with even more engaging activity ideas

A fun new way of teaching collaborative play

‘Let’s build social skills together’ package

Preschool teachers have the challenging task of preparing children for school and life. Building social skills is one of the most critical factors in children’s development and will have an influence on the rest of their lives.

Using this solution of LEGO® Education preschool products, teachers can foster social skills in a relevant, hands-on and playful way. While engaging with the sets, children will practice recognizing and understanding emotions, building self-esteem, taking turns, collaborating and developing respect for people’s similarities and differences.

Pack Content

• 45009 Animal Bingo	1
• 45010 Community People Set	1
• 45018 Build Me “Emotions”	1
• 45019 Creative LEGO® DUPLO® Brick Set	1
• Social skills activity booklet	1

1-24 | 418 | www | 2-5 yrs

Why buy me?

- Special designed pack for social emotional development
- Includes 418 LEGO® DUPLO® pieces
- Features an additional activity booklet with 10 lessons ideas

24 children

Build Me ”Emotions”

Community People Set

Animal Bingo

Creative LEGO® DUPLO® Brick Set

Community Starter Set

9389

10+ | 1907 | www | 4+ yrs

So many pieces, so many possibilities! The set encourages children to communicate and collaborate, as they construct communities that exist in their imaginations. As they play, they will develop fine motor skills, learn how to express themselves, and explore the world they live in.

Why buy me?

- Teaches important concepts like community, roles and responsibilities and systems and rules
- 1,907-piece set includes colorful bricks, windows, wheels, and minifigures

1907 elements giving 10 children 190 bricks each!

Enhance role play in other sets

Exploring the world

Community Minifigure Set

9348

257 | www | 4+ yrs

Let children explore their world through the people that make a community function. They will construct minifigures and role play, using expressive language to tell stories about the characters and their communities. The set will enable them to learn about how people help each other as well as their roles and responsibilities.

Open a world of imagination

Creative LEGO® Brick Set

45020 | 1-8 | 1000 | www | 4+ yrs

Stimulate children's natural curiosity to explore and learn with this versatile brick set. With 1,000 bricks included, the set allows children to create all sorts of life-like or imaginary figures, objects and buildings. Children develop fine motor skills while constructing and the building cards will support and inspire their creativity. Where will their imaginations take them? A handful of LEGO bricks can turn into absolutely anything!

Why buy me?

- 1,000 classic LEGO® shapes and colors
- 8 double-sided building cards for support and inspiration
- An activity card with inspirational teaching ideas
- Online videos offer even more engaging activity ideas

NEW
Classic LEGO® bricks
1000 pieces!

Doors, Windows & Roof Tiles

9386 | 278 | 4+ yrs

This set gives you a huge variety of windows with shutters, doors and roof tiles. Everything you need to give your constructions the finishing touches.

Wheels Set

9387 | 286 | 4+ yrs

Combine this set with standard LEGO® bricks and let children build all sorts of vehicles and add mobility to their constructions. The set includes tyres in four different sizes along with plates, axles and wheel hubs to make sets of wheels and vehicle chassis for up to 12 different vehicles at the same time.

Roles and responsibilities of transportation

Vehicles Set

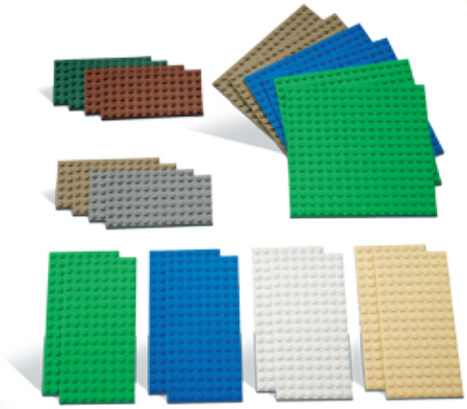
9333

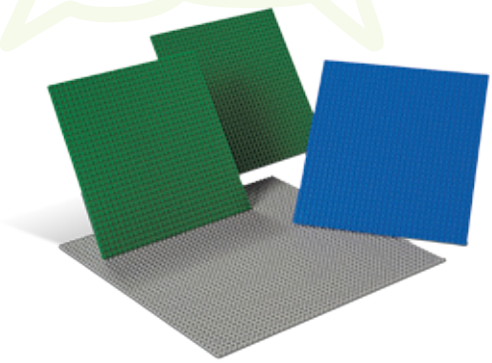
1-6 | 934 | www | 4+ yrs

Explore the exciting world of wheels! The set lets children create and role play with a variety of vehicles that represent all kinds of transportation and travel. They'll learn about the roles and responsibilities of vehicles in their communities as they further develop their fine motor skills.

Why buy me?

- Develops fine motor skills as children learn about the roles and responsibilities of transportation in their communities
- 934-piece set includes bricks and wheels for constructing a bus, garbage truck, ice cream truck and other vehicles
- Includes 5 double-sided inspiration cards with models, building ideas and minifigures





Small Building Plates

9388

22 | 4+ yrs

Features 22 building plates in three different sizes and a variety of colors. Use as foundation for your LEGO creation, to create landscapes, or for constructing tall buildings. Use blue to represent the sea, green for grass, beige for sand, grey for concrete, brown for soil, etc.

Large LEGO® Building Plates

9286

4 | 4+ yrs

This set includes one grey 38 x 38 cm building plate, 2 green 25 x 25 cm building plates and one blue 25 x 25 cm building plate. Let the blue represent the sea, the green, grass, etc.

Ready, set, take off!

Space and Airport Set

9335 | 1-6 | 1176 | www | 4+ yrs

Take off to an exciting new world of play! Children work together to build and create stories about transportation and space travel as they further develop their speaking, listening and fine motor skills. The bricks and special elements make it easy to construct fun, unique buildings and vehicles.

Why buy me?

- Enables children to role play and create stories around transportation and space travel
- 1176-piece set includes bricks and special elements to construct buildings and vehicles, including an airport and space shuttle
- Includes 5 double-sided inspiration cards with model and building ideas and minifigures

Storage Solution (6 Pack)

9840 | 1½+ yrs

This large storage box comes in packs of six. The boxes have transparent lids and are ideal for stacking. Each box has drainage holes so that LEGO elements can be washed in the containers. Ask your dealer for options to purchase single boxes. Suitable for use with children from 1½ years.

Sceneries Set

9385 | 8+ | 1207 | www | 4+ yrs

Spark children's creativity as you encourage collaborative building and storytelling. The very large set lets children build settings, models and characters as big as their imaginations! After they construct together, children will tell and listen to stories, enhancing their language development along the way.

Why buy me?

- Children's imaginations come together to construct big, fantastic worlds they can tell stories about
- 1207-piece set includes a wide range of basic bricks in unique colors
- Includes special elements like spiders, snakes, wands, pots, roast chickens, flowers, a treasure chest and transparent pieces

1:1

4.2CM

Fairytale and Historic Minifigure Set

9349 | 227 | www | 4+ yrs

Add a fantastic creative element to any model as children bring their favorite stories to life. This wonderful minifigure set encourages children to explore the differences between real-life, make-believe and historic characters. Creating stories unleashes their imagination and creativity while they practice speaking and listening skills.

Why buy me?

- Children explore many different types of stories and storytelling as they develop speaking and listening skills
- 227-piece set includes 22 minifigures representing a variety of story and history characters like pirates, a witch, and a mermaid and merman
- Includes special elements to spark and enhance children's stories

FIND OUT ABOUT LEGO® EDUCATION ON LEGOeducation.com

LEGO® Education Elementary

Ignite enthusiastic, effective and lifelong learning

Problem solving
Critical thinking
Creativity
Communication
Collaboration

Elementary

We support teachers to ignite students' engagement in core subjects

LEGO® Education enables every student to succeed in elementary by igniting enthusiastic, effective and lifelong learning. Through our hands-on solutions, we support elementary school teachers as they lay the foundation for students to become engaged learners.

From literacy to numeracy

With our playful learning experiences for language arts, science, technology, engineering and math problem solving, students will not only learn subjects more effectively but will also improve their collaboration, communication, creativity and problem-solving skills.

Let's create stimulating, hands-on learning experiences

LearnToLearn

Try the impact of LEGO® Education solutions

LearnToLearn will show you how to effectively use LEGO bricks across areas of the curriculum while keeping 21st century skills development at the forefront. It is a cost-effective classroom trial kit with simple activities across language arts, mathematics, social studies, science and design & engineering.

LearnToLearn Core Set & Curriculum Pack

45120

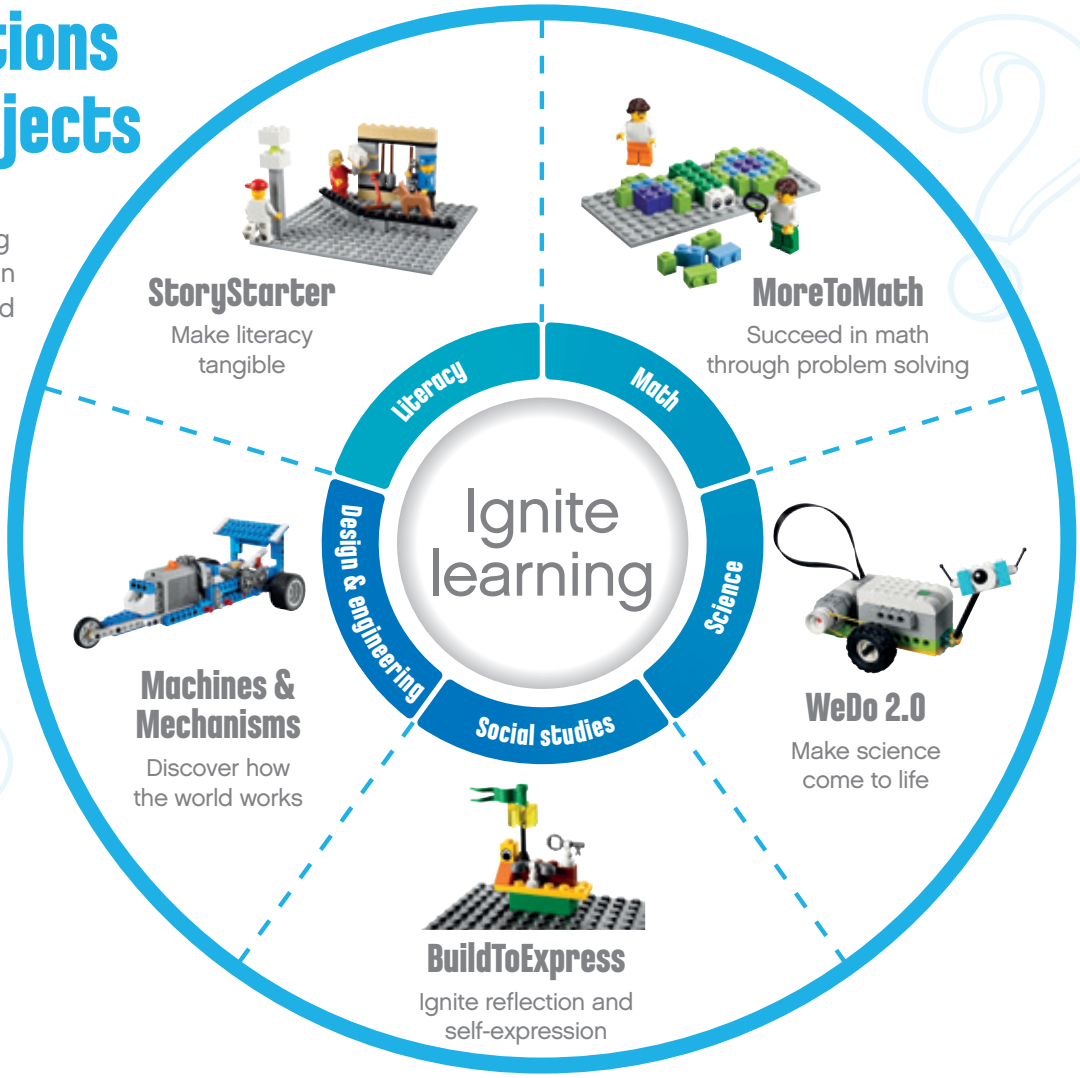
LearnToLearn is the perfect way to try the impact LEGO Education solutions have on student engagement and learning outcome.

Strong solutions for core subjects

In the Elementary Segment we give you strong, inspiring and effective solutions within core subjects as literacy and math along with science and social studies.

Technology, Engineering and Computing can be taught using one or more of our science solutions.

See the following pages for details on our offerings for each core subject.



Don't just take our word for it...

"Since using StoryStarter the majority of children have gained confidence in speaking, listening and writing which can be directly attributed to this way of writing stories."

Hannah Pankhurst, Elementary teacher, UK

"All the students are completely focused and motivated when working with LEGO® Education WeDo in the classes. The learning process is always pleasant and efficient when there is an incentive."

Marina Nauiova, Elementary teacher, Moscow, Russia

"My students react with great enthusiasm when working with WeDo. Through the problem solving skills the children learn to communicate and cooperate, so that both professional and social skills are acquired, and these skills are really important for the future."

Tine Tremmel, Elementary teacher, Grundschule Birkenheide, Germany

"It has enhanced our ability to deliver STEM. The educational benefits have been huge and we have not regretted taking up the offer – too good to resist."

STEM teacher, US

"LEGO Education products are great for learning about Science and Technology as well as communication and self-expression, especially for younger children."

Robotics Teacher, Japan

"LEGO Education products are very flexible and fit any subjects in the school curricula. There is no substitute for LEGO bricks as a learning tool."

Science teacher, Japan

"Because the way LEGO Education works is very pupil led and pupil centred so it encourages them to make mistakes and learn from them."

UK teacher

"Some of those children who are our more reluctant speakers and writers can create something meaningful with LEGO bricks that they can talk about naturally."

US teacher

LEGO® Education StoryStarter

Make literacy tangible

LEGO® Education StoryStarter

BUILT ON NATIONAL CURRICULUM

We will enable every student to become confident writers and help them bring their stories come to life. We do this, by supporting teachers with a strong and inspiring hands-on minds-on solution bringing engagement and creativity into the classroom and also focusing on developing 21st century skills.

StoryStarter will help students structure their story, use their imagination and language to create, write and visualize stories, describe personalities, communicate them to others and evaluate them together.

Relevant Curriculum to build strong literacy skills

The StoryStarter Core Curriculum focuses on story structure and creating narratives, enhancing writing abilities, communication and collaboration skills.

The StoryStarter Expansion Sets and Curriculum are add-on packs to the StoryStarter Core Set and students are challenged even further going deeper into genres and social studies through a three phase method: Theme, Research and Reporting. It allows students to create and document their stories with different types of writing such as interviews, articles, logbooks, reports and much more.

Core curriculum

Creating, telling and writing stories

Beginning • Middle • End

Story structures • Creating narratives • Genres
Analyzing and retelling • Enhancing writing styles

Expansion pack curriculum

Different writing styles

Theme • Research • Reporting

Newspaper • Diary • TV script • Letter • Interview
Biography • Documentary • Report
Advertisement • Info graphics
Instructional writing • Poem

ADD-ON

MEETING NATIONAL STANDARDS

Writing
- Improve the writing of stories and other text types with activities that focus on building, planning and editing ideas.

Communication of ideas
- Sharing is such a large part of StoryStarter, making it a valuable tool for developing communication and collaboration skills.

Genres and styles
- The core curriculum pack and expansion packs offer activities across a range of genres (including fairy tale, science fiction, historical) and non-fiction text types (including newspapers, reports and autobiographies).

Topic-based learning
- StoryStarter covers many different topics, especially in the expansion packs, and all activities can be used as part of a topic approach to schemes of work. This ensures creativity and collaborative learning in the classroom.

Accessible for all
- StoryStarter is accessible to all, at different levels and with a range of educational, behavioural and social difficulties and needs.

StoryStarter
An engaging and motivating solution

Key learning values

- Strengthens literacy skills, improving writing, language and reading abilities
- Enhances communications skills, including speaking, listening and presentation capabilities
- Improves collaboration skills and enhances students' ability to work in teams
- Develops comprehension skills and enables students to compose new stories or analyse existing ones

StoryStarter Core Set

45100

1-5 | 1147 | www | 6+ yrs

The StoryStarter Core Set contains enough elements to equip up to five students with everything they need to start constructing their own stories. Building materials are delivered in a sturdy storage box along with sorting trays, baseplates, activity spinners, organizational stickers and an assortment of specialty bricks and minifigures.

StoryStarter Curriculum Pack & Software

2045100

www | 7+ yrs

The StoryStarter Curriculum Pack ensures educators are able to get going with the product straightaway. Including 24 activities in 4 categories:

- Getting Started
- Day-to-Day Storytelling
- Building and Telling Stories
- Telling, Retelling and Analyzing.

By combining word and images, the StoryVisualizer software helps students to present, share and document their stories. Students can take images of their story creations and import them into the software. The program allows users to select from a variety of preexisting writing templates or to customize their own. Also available on tablets.

E-learning: Getting started with StoryStarter

2000524

The online e-learning program consists of eight video lessons, plus five software tutorials in full HD led by a LEGO Education Master Trainer and Content Developer. Each course is organized into three levels, taking you from complete beginner to confident user.

LEGOeducation.com/StoryStarter:

- See Curriculum previews
- Try a freemium version of the software
- Find software requirements

Go to www.legoeducation.com/storystarter to see how StoryStarter supports all learners

StoryStarter engages all learners

We know that today's teacher has many responsibilities and it is a challenge to be able to help all types of learners. Imagine a literacy class that can cater to every student's unique thoughts, dreams, talents, capacities and interests. This is one of the key strengths of StoryStarter. StoryStarter supports teachers to provide engaging and meaningful learning experiences for all students.

Conduct research and practice writing styles

Intended for use with the LEGO® Education StoryStarter Core Set. The StoryStarter Expansion Sets encourage students to:

- create rich and detailed fairy tales
- discover the science fiction genre
- recount historical events
- explore a variety of social studies topics related to communities and their needs

Every Expansion Set has a corresponding Curriculum Pack that invites students to delve deeper into each theme.

Key learning values

The Curriculum Packs

- feature fiction and non-fiction activities with real-world relevance
- challenge students to read informational texts related to the different themes
- endow students with the powerful skills of conducting research, interpreting findings, and
- document stories using a variety of writing styles


StoryStarter Fairy Tale Expansion Set

45101 — 186 — 6+ yrs

StoryStarter Fairy Tale Curriculum Pack

2045101 — 7+ yrs


StoryStarter Space Expansion Set

45102 — 186 — 6+ yrs

StoryStarter Space Curriculum Pack

2045102 — 7+ yrs


StoryStarter Community Expansion Set

45103 — 201 — 6+ yrs

StoryStarter Community Curriculum Pack

2045103 — 7+ yrs

StoryStarter Classroom Solutions

StoryStarter Core Set Package – 30 students

- StoryStarter Core Set (45100) 6
- StoryStarter Curriculum Pack and Software (2045100) 1

www 7+ yrs

StoryStarter Space Expansion Package – 30 students

- StoryStarter Space Expansion Set (45102) 6
- StoryStarter Space Curriculum Pack (2045102) 1

www 7+ yrs

StoryStarter Full Classroom Package – 30 students

- StoryStarter Core Set (45100) 6
- StoryStarter Curriculum Pack and Software (2045100) 1
- StoryStarter Fairy Tale Expansion Set (45101) 6
- StoryStarter Fairy Tale Curriculum Pack (2045101) 1
- StoryStarter Space Expansion Set (45102) 6
- StoryStarter Space Curriculum Pack (2045102) 1
- StoryStarter Community Expansion Set (45103) 6
- StoryStarter Community Curriculum Pack (2045103) 1
- E-Learn: Getting Started with StoryStarter (2000524) 1

www 7+ yrs

Real classrooms, real results

"There is one question I am often asked: Is it worth the effort? My opinion: YES!! I have compared the stories my pupils wrote before using StoryStarter with the ones they create now. The differences are really impressive: you can see it in the great way of telling and structuring the story as well as the quality of their work."

Sebastian Kirch,
Elementary teacher, Germany

"Through using StoryStarter, I could clearly see my students' progress in hands on learning, observation and collaboration. Especially during the storytelling phase, I am amazed by their imagination. Some of my more quiet students have surprised me and showed me their passionate side. Students are learning by playing, and play stimulate their curiosity as well as their desire to learn."

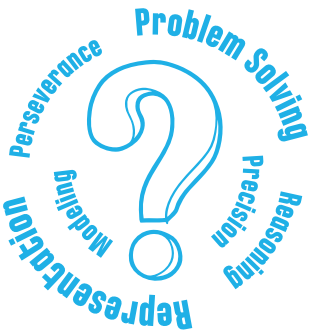
Mr. Zhang,
Elementary teacher, China

"LEGO® Education StoryStarter is a manipulative that ignites the inner motivation in my students. It becomes a tool that the students can use to model their creative thoughts while increasing their enthusiasm. StoryStarter is a versatile piece in my toolbox of teaching tools."

Patricia Blake,
Elementary teacher, United States

LEGO® Education MoreToMath

Succeed in math through problem solving



LEGO® Education
MoreToMath

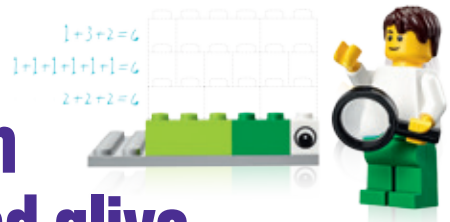
BUILT ON NATIONAL CURRICULUM

MoreToMath from LEGO® Education is a hands-on educational tool for 1st and 2nd grade for teaching mathematical problem solving bridging to math facts. By using the familiar LEGO® brick and real-life understanding, your students will feel encouraged and motivated to think, write and speak freely about math.

MoreToMath includes curriculum activities for 48 lessons based on eight competencies in mathematical problem solving defined by the latest national standards. Through the activities, students help the two characters, Max and Mia, to solve problems within four real life themes and they collaboratively experience that there is more to math than just facts. Learn more about MoreToMath at LEGOeducation.com.

LEGO education

When abstract math becomes tangible and alive

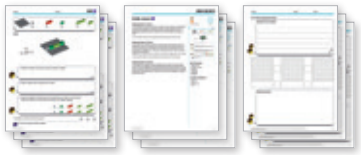


LEGO® Education MoreToMath 1-2 helps students succeed in math through problem solving. Our full teaching solution, including activities, guidance and assessment, helps teachers make abstract math tangible and ignites students' learning of the competencies needed to do mathematical problem solving.

Key learning values

- Strengthens students' understanding of the mathematical problem solving competencies, including making sense of problems, reasoning, perseverance, precision, modeling and representation
- Reinforces math competency learning through hands-on activities across the areas of numeracy, operations in base 10, algebraic thinking, measurement, data, geometry and spatial awareness
- Improves problem solving and mathematical thinking skills through working collaboratively as well as individually

A complete teaching solution



MoreToMath Curriculum Pack 1-2

Teacher's Guide for 48 lessons with student activities, build in assessment and levels for differentiation.

MathBuilder

Interactive Whiteboard Software for teaching.

Teacher training

5 training videos for teachers.

Mathematical Problem Solving

Launching in April

MoreToMath Classroom Tool

Digital documentation and assessment tool for tablets *US only

Storage

With a sorting tray for classroom management.

MoreToMath Core Set 1-2

LEGO® bricks for building small simple models for math problem solving competencies.

MoreToMath is an effective and engaging teaching tool

A limited number of bricks in use per task and only one piece of paper on the table makes it easy to handle using the set in the classroom. Each student worksheet covers 1 lesson and shows the bricks to use, the tasks with room to write answers, self assessment and an extra extension task.

MoreToMath Curriculum Pack 1-2

2045210 www 6+ yrs

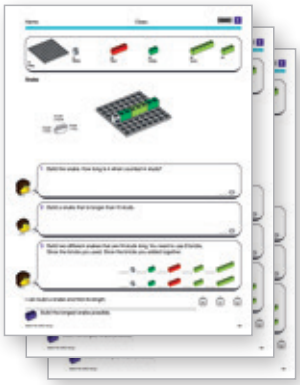
Built upon curriculum standards for mathematics, the MoreToMath Curriculum Pack 1-2 aids educators in first and second grade in creating engaging lessons focused on mathematical problem-solving.

Teacher's Guide and intuitive Student Worksheets for 48 lessons are provided along with a learning grid aligning activities to key national standards and objectives, integrated assessment tools, inspiration for differentiation, extension ideas and training videos for teachers.

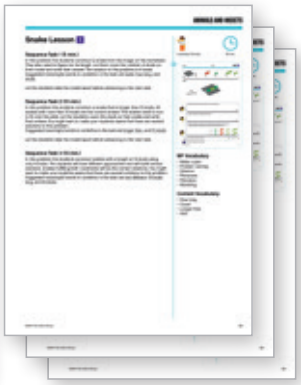
MoreToMath Core Set 1-2

45210 2 521 www 6+ yrs

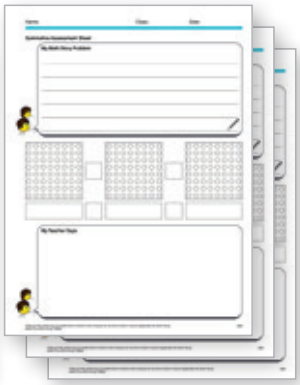
The MoreToMath Core Set 1-2, when used with the MoreToMath Curriculum Pack 1-2, enables students in first and second grade to build and practice the competencies of mathematical problem-solving. One set contains the LEGO elements needed for two students. Building materials are delivered in a storage bin with sorting tray, organizational stickers, base plates, brick separators, and two LEGO Minifigures, the problem solvers Max and Mia.



Student Worksheets



Teacher Guide



Assessment Tools

Enhance your students' learning with the MathBuilder - a tool for interactive whiteboards

Also included is MathBuilder, an interactive whiteboard software enabling educators to bring math lessons to life for the entire class. A digital building tool inside the software encourages students to share their problem-solving solutions, further promoting communication and collaboration skills.

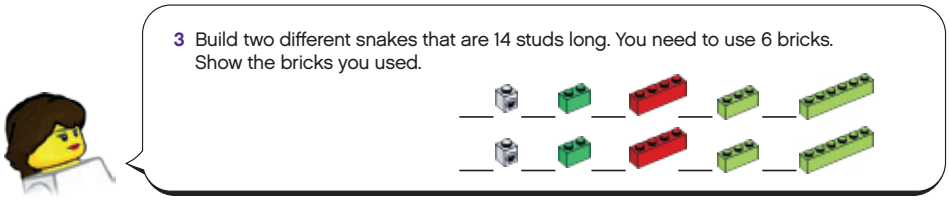
MoreToMath integrates ways to assess what counts

Observation Checklist

Activity		Curriculum Objective	Observation	Students
Title	Lesson #	Mapped to Common Core State Standards for Mathematics		
	1	Make sense of problems and persevere in solving them (MP.1)	Students concentrate on building snakes of the correct length. They ask each other or the teacher questions if they need help with understanding.	
		Attend to precision (MP.6)	Students can build snakes of precise lengths.	
		Learning Targets: 1.OA.A.1, 1.OA.A.2, 1.OA.C.5; 1.NBT.A.1, 1.MD.A.1, 1.MD.A.2, 1.MD.C.4;	Students can add within 20.	
		Self-Assessment: Student's answer	I can build a snake and find its length.	
		Students tried (T) or completed (check) the Purple Brick Challenge.	Build the longest snake possible.	

Assessment supports learning. The forms of assessment integrated into MoreToMath are formative and ultimately guided by the single aspiration – to help measure what counts, rather than what is easy to count.

Worksheets as portfolio pages



Self and peer assessment

We can help each other before asking the teacher for help

Classroom solutions For MoreToMath

MoreToMath 1-2 Package – 2 students

2 students

- LEGO® Education MoreToMath Core Set 1-2 (45210) — 1
- LEGO Education MoreToMath Curriculum Pack 1-2 (2045210) — 1
  - incl. activities for 48 lessons
  - the MathBuilder software
  - assessment tools
  - Max and Mia animation
  - 5 training videos

MoreToMath 1-2 Package – 30 students

30 students

- LEGO Education MoreToMath Core Set 1-2 (45210) — 15
- LEGO Education MoreToMath Curriculum Pack 1-2 (2045210) — 1
  - incl. activities for 48 lessons
  - the MathBuilder software
  - assessment tools
  - Max and Mia animation
  - 5 training videos

Differentiation tasks are included - the purple brick challenges

Children learn in different ways and sometimes it is great to have an extra challenge if you finish a bit before your classmates.

The purple brick in each student worksheet marks such a challenging task. Apart from this self-directed differentiation option, the teacher notes provides ideas for more differentiation as well as repetition.

LEGOeducation.com/MoreToMath:

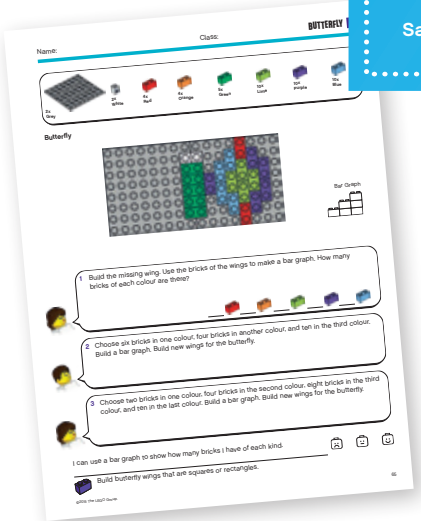
- See Curriculum previews
- Try a freemium version of the software
- Find software requirements

"Can you build a snake that is 42 studs long with a red brick in the middle?"

Don't just take our word for it...

Every student is actively engaged and participating in learning math. They normally aren't this excited about learning. The kids are careful with the pieces so they don't lose any; they beg to give up other things during the day so they can work on math problems with the LEGO bricks. They look forward to it and love it!

Sara Hunt, Math Teacher, US



Can you see the number pattern in the wing of the butterfly?

LEGO® Education WeDo 2.0

Makes science come to life

With real-world science projects, including engineering, technology and coding, students experience how science comes to life. By using a curriculum relevant learning solution, WeDo 2.0 builds students' confidence to ask questions, define problems and design their own solutions by putting discovery in their hands and their minds.

Designing
Investigating
Modeling
Computing

LEGO® Education
WeDo 2.0

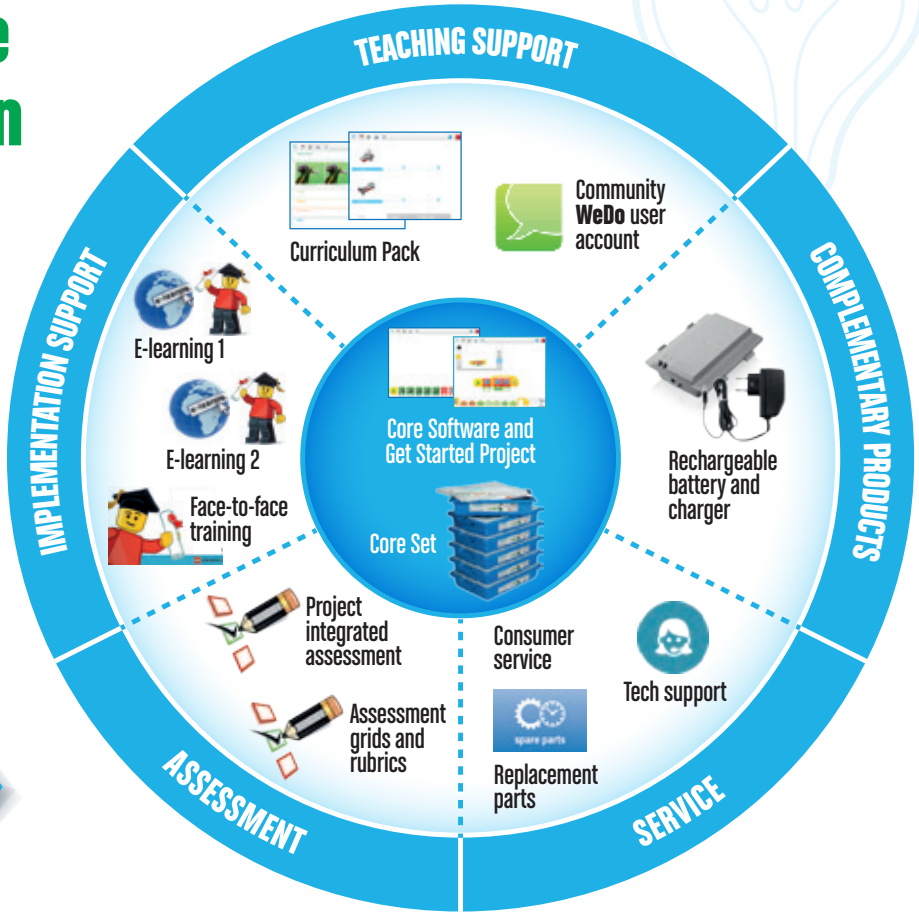
BUILT ON NATIONAL CURRICULUM

NEW

WeDo 2.0 science teaching solution

WeDo 2.0 offers classroom solutions for every teacher to deliver impactful, differentiated and digitally relevant science projects.

Here you see all the components that complements the WeDo 2.0 Core Set and Core Software.



For more information go to LEGOeducation.com

WeDo 2.0 Core set and Core software

Ignite student's curiosity and enhance their skills in science, engineering, technology and coding. Use the WeDo 2.0 Core Set and Core Software to get the basic experience with WeDo 2.0. The unique solution combines the LEGO brick, classroom-friendly software, engaging, standards based, science projects and every student's desire to explore.

LEGO® Education WeDo 2.0 Core Set

45300

1-2 | 280 | www | 7+ yrs

Designed for elementary classrooms, the WeDo 2.0 Core Set, Software and Get Started Project is a hands-on solution that ignites students' curiosity, enhancing their skills in science, engineering, technology and coding. The core set is delivered in a storage bin with sorting trays, labels, Smarthub, Medium Motor, motion sensor, tilt sensor and building elements for two students. The software includes one Get Started Project which delivers an introductory experience to the hardware, software and documentation tool. The desktop and tablet-supported software provides an easy-to-use programming environment that gives life to students' LEGO® models.

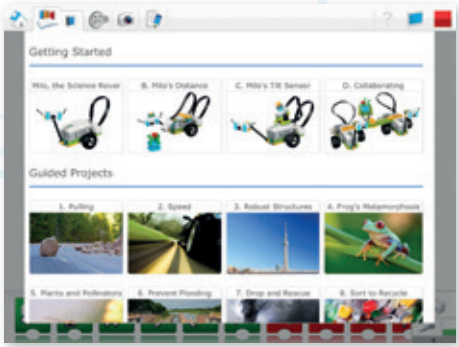
The LEGO® Education WeDo 2.0 Software can be used on tablets and PCs with Bluetooth 4.0

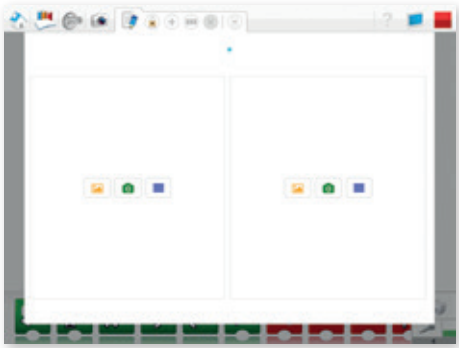
Build your students' confidence to ask questions and solve problems

LEGO® Education WeDo 2.0 empowers teachers to deliver engaging science projects through a combination of accessible software and intelligent components, harnessing all the excitement of discovery across the sciences in the curriculum.

Key learning values

- Investigating, modelling and designing solutions
- Engage students in science by making it real and relevant
- Basic programming skills
- Collaboration and presentation skills
- Critical thinking and problem-solving



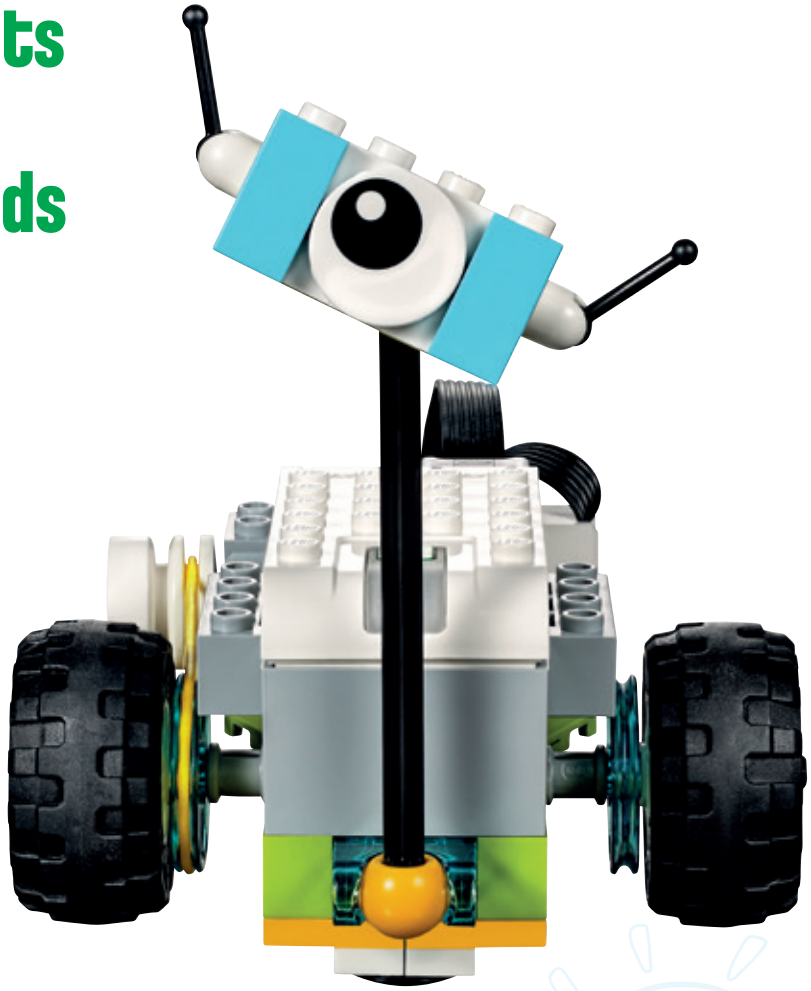


40+ hours of projects - built on national curriculum standards

LEGO® Education WeDo 2.0 Curriculum Pack

2045300 www 7+ yrs

Promote investigation and experimentation with the WeDo 2.0 Curriculum Pack. Built on the latest science standards, the pack aids second- through fourth-grade educators in delivering key science content while incorporating activities across engineering, technology and computing. Included are the materials for delivering 17 projects totaling more than 40 hours of instructional content across life, physical, and Earth & Space sciences as well as engineering. Additional resources such as learning grids aligning activities to key standards and objectives, integrated assessment tools, ideas for differentiation and classroom management tips and tricks are also included. The WeD0 2.0 Curriculum Pack is available in US, UK, DE and CN.



Rechargeable battery for easy classroom management

LEGO® Education WeDo 2.0 Add-on Power Pack

5004838 www 7+ yrs

Avoid the loss of valuable teaching time caused by dead or missing batteries with the Add-On Power Pack, a rechargeable battery and charger designed exclusively for use with the Smarthub. It provides longer run time than AA batteries and has a charge time of around three hours. It is economically beneficial, as well as being more environmentally friendly.

WeDo 2.0 ReadyGo solution – make it easy and manageable with full teaching support

For the educator who wants a WeDo 2.0 solution including more than 40 hours of ready-made guided and open projects, this is the pack. “ReadyGo” provides full teaching support from implementation to curriculum activation and all activities are followed by step-by-step instructions, just as they include integrated assessment to help you follow each student’s learning development. To make you feel most confident, our e-learning 2 programme takes you through all needed product information and a thorough training in use.

LEGO® Education WeDo 2.0 ReadyGo

- LEGO Education WeDo 2.0 Core Set - Core softwareincl. (45300) — 1
- LEGO Education WeDo 2.0 Curriculum Pack (2045300) — 1
- E-learning 2 - available in EN, DE, CN (2000527) — 1

1-2 | 280 | www | 7 yrs

WeDo 2.0 YouCreate solution – the fundamental tools for you to unfold your own projects

With YouCreate you get the basic LEGO® Education WeDo 2.0 solution with the fundamental Core Set and Core Software. The solution also includes the e-learning 1 programme that supports personalized teaching, and a basic teacher’s guide with general assessment grids.

LEGO® Education WeDo 2.0 YouCreate

- LEGO Education WeDo 2.0 Core Set - Core software incl. (45300) — 1
- E-learning 1 - available in EN, DE, CN (2000526) — 1

1-2 | 280 | www | 7 yrs

Avoid loss of valuable teaching time - get the Add-on Power Pack (5004838)

Already using WeDo?
Continue to explore!

Do you need supplement items for your original WeDo? Get them here.

Not compatible with WeDo 2.0

LEGO® Education WeDo Construction Set

9580 1-3 | 158 | www | 7+ yrs

The WeDo Construction Set enables students to build and program simple LEGO models that are plugged into a computer. The set contains more than 150 elements, including a motor, motion and tilt sensors, and the LEGO USB Hub. Combine with the 2000097 Activity Pack to carry out 12 theme-based activities. Software and activity pack is sold separately, see 2000097.

LEGO® Education WeDo Software v.1.2 and Activity Pack

2000097 www | 7+ yrs

Easy-to-use software and 12 theme-based activities for the WeDo Construction Set in one package!

The drag-and-drop software, powered by LabVIEW, is icon-based and provides an intuitive programming environment. Features the digital Getting Started Guide with building tips and programming examples. Activities are divided into four themes: Amazing Mechanisms, Wild Animals, Play Soccer and Adventure Stories and provide up to 24 hours of instruction and project-based learning. Teacher notes, glossary and building instructions included.

LEGO® Education WeDo Resource Set

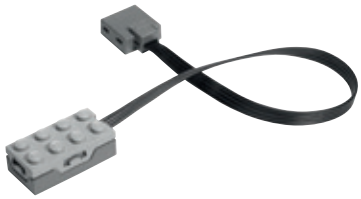
9585

Features extra and new elements for building large WeDo models that provide even more learning opportunities. Combine with 9580 WeDo Construction Set to build four new models: Ferris Wheel, Crane, Car or House. Includes new elements such as wheels, rotors and a door. Download free building instructions and programming samples at LEGOeducation.com.

WeDo 8+ Projects Curriculum Pack

2009585

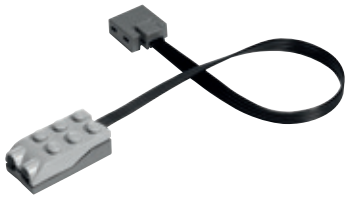
Take learning with LEGO® Education WeDo to the next level with this fun and challenging Amusement Park and Construction Site themed set. Using the drag-and-drop intuitive programming environment that students are already familiar with, WeDo 8+ Projects features 6 advanced activities and 4 open-ended problem solving exercises. With enough material for up to 30 lessons, including worksheets and teacher notes, WeDo 8+ Projects is ideal for developing understanding of a wide range of STEM topics. Requires: 9580 LEGO® Education WeDo Construction Set, 9585 LEGO® Education WeDo Resource Set, 2000097 LEGO® Education WeDo Software and Curriculum Pack. Available in Starter and Classroom sets.



Tilt Sensor

9584

The tilt sensor, designed for the WeDo Construction Set, detects changes within six different positions: Tilt This Way, Tilt That Way, Tilt Up, Tilt Down, No Tilt and Any Tilt. The tilt sensor is automatically detected by the WeDo Software when connected to the LEGO® USB hub.



Motion Sensor

9583

The motion sensor, designed for the WeDo Construction Set, can detect objects within a range of 15 cm, depending on the design of the object, when attached to the LEGO® USB Hub. The motion sensor is automatically detected by the WeDo Software when attached to the LEGO USB Hub.

Power Functions M-Motor 7+

8883

Build an extra medium-strength, medium-sized M-Motor into your LEGO® creations and watch things start moving.

Power Functions Light 7+

8870

Add bright LED lights to your models to create glowing eyes, illuminated headlights and anything else you can imagine and build.

LEGO® USB Hub

9581

The LEGO® USB Hub, designed for the WeDo Construction Set, controls sensors and motors via the WeDo Software when connected to a computer's powered USB port. This two-port hub transmits power and data to and from the computer and both ports are able to control motors and sensors. The LEGO USB Hub is automatically detected by the WeDo Software when connected to a computer.

LE Replacement Pack LE WeDo 1

2000710

LEGO Education Replacement Packs are the ideal way to replace key elements for your LEGO Education products. This pack includes elements for LEGO Education WeDo Construction Set (9580) and LEGO Education WeDo Resource Set (9585).

LE Replacement Pack LE WeDo 2

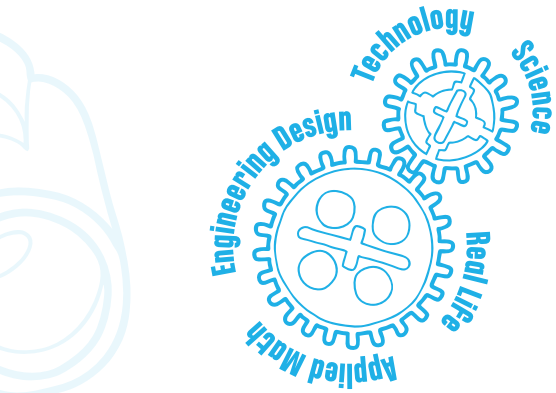
2000711

LEGO Education Replacement Packs are the ideal way to replace key elements for your LEGO Education products. This pack includes elements for LEGO Education WeDo Resource Set (9585).

LEGO® Education Machines & Mechanisms

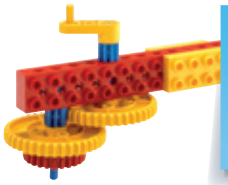
Discover how the real world works

With Machines & Mechanisms, teachers can ignite learning about basic mechanisms, structures, and power sources in the real world and engage their students in scientific inquiry and creative engineering design. We help teachers with several easy-to-use activities and with guidance and real-world inspiration bridging into technology and science textbooks.

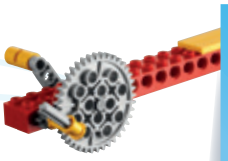


LEGO® Education
Machines & Mechanisms

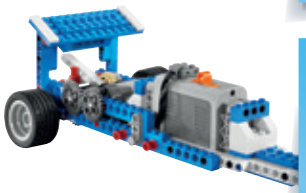
BUILT ON NATIONAL CURRICULUM



Early Simple Machines Set
Ages 5-7



Simple Machines Set
Ages 7-9



Simple & Powered Machines Set
Ages 8+

Early Simple Machines

Early Simple Machines from LEGO® Education is an engaging hands-on tool that uses real-life LEGO® elements to help kindergarteners and first-graders learn how gears, levers, pulleys, wheels and axles work, while gaining early insight into science and engineering.

Learn more at LEGOEducation.com

Early Simple Machines Set

9656

The Early Simple Machines Set provides eight mechanical models and eight double-sided, full-color building instructions. The set includes gears, levers, pulleys, wheels and axles, as well as a plastic punch-out sheet with eyes, sails, scales and wings. Combine with the 2009690 activity pack to carry out eight lesson plans, each with 20-minute extension activities, and four problem-solving tasks.

Activity Pack for Early Simple Machines

2009690 5+ yrs

The activity pack for the 9656 Early Simple Machines includes eight 45-minute lessons, each with extension activities of up to 20 minutes, and four additional open-ended problem-solving activities. Illustrations introduce playful problems that the children must solve.

Key learning values

- Exploring basic mechanical principles such as gears, levers, pulleys, wheels and axles
- Investigating force, buoyancy and balance
- Solving problems through design
- Working with others and sharing findings

8 lessons + 4 projects

Classroom Solutions

Early Simple Machines Package - 2-3 students

- LEGO® Education Early Simple Machines Set (9656) 1
- LEGO® Education Activity Pack for Early Simple Machines (2009690) 1

www 5+ yrs

Early Simple Machines Package - 30 students

- LEGO® Education Early Simple Machines Set (9656) 15
- LEGO® Education Activity Pack for Early Simple Machines (2009690) 1

www 5+ yrs

2-3 students

30 students

Simple Machines

Simple Machines from LEGO® Education is an engaging hands-on tool that introduces second- and third-graders to the basic principles behind gears, wheels, axles, levers and pulleys, while laying the groundwork for further learning about science and engineering.

Simple Machines Set

9689

1-3 | 204 | www | 7+ yrs

Features 16 principle models, four main models and four problem-solving models that enable students to investigate and understand the operation of simple and compound machines found in everyday life: gears, wheels and axles, levers and pulleys.

Activity Pack for Simple Machines

2009691

Features 16 principle activities, 4 main activities and 4 problem-solving activities. Enables students to recognize 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.

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

Principle activities and problem solving engineering activities. 20+ lessons

Classroom Solutions

Simple Machines Package - 2-3 students

• LEGO® Education Simple Machines Set (9689)	1
• LEGO® Education Activity Pack for Simple Machines (2009691)	1

Simple Machines Package - 30 students

• LEGO® Education Simple Machines Set (9689)	15
• LEGO® Education Activity Pack for Simple Machines (2009691)	1

2-3 students

30 students

Simple & Powered Machines Set

Introducing Simple & Powered Machines from LEGO® Education is a hands-on tool that helps students in grades 3-5 investigate everything from basic mechanical principles to advanced motor-powered machines, while also acquiring key insights in science, engineering and technology.

Key learning values

- Building and exploring real life Machines and Mechanisms
- Investigating powered machines with the motor
- Using plastic sheets for calibration and capturing wind
- Exploring gearing mechanisms with the assorted gear wheels incl. differential

Simple & Powered Machines Set

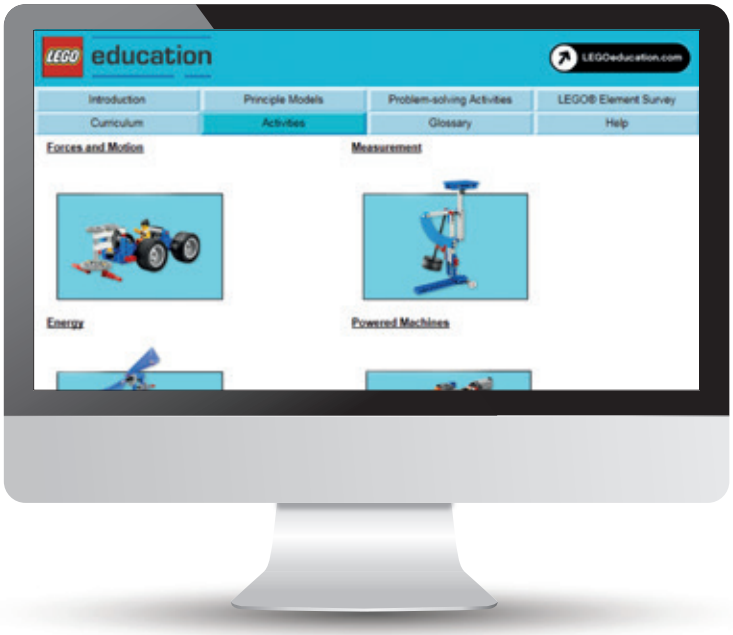
9686

The core brick set in our range of Machines & Mechanisms solutions, this set includes full-color building instruction booklets for 10 principle models and 18 main models. Combine with curricular-relevant activity packs and add-on sets to carry out a broad range of activities within design technology, science and mathematics.

Introducing Simple & Powered Machines

2009692

With this activity pack, students get a fundamental understanding of simple machines, structures and mechanisms. The pack features 37 principle model activities, 14 main activities, including extension activities and six problem-solving tasks. Flash animations introduce the activities. Teacher's notes, student worksheets and glossary included.



Key learning values

- Investigating the principles of simple machines, mechanisms and structures
- Experimenting with balanced and unbalanced forces
- Experimenting with friction
- Capturing, storing and transferring wind energy
- Measuring distance, time, speed and weight
- Calibrating scales
- Investigating powered forces and motion, speed and pulling power

Classroom Solutions

Simple & Powered Machines Package - 2-3 students

- LEGO® Education Simple & Powered Machines Set (9686) — 1
- Introducing Simple & Powered Machines (2009692) — 1

Simple & Powered Machines Package - 30 students

- LEGO® Education Simple & Powered Machines Set (9686) — 15
- Introducing Simple & Powered Machines (2009692) — 1

2-3 students

30 students

Challenge your students

AND INTRODUCE THEM TO THE FASCINATING WORLD OF SCIENCE AND TECHNOLOGY

Junior *FIRST*® LEGO® League (Jr.FLL®) and *FIRST* LEGO League (FLL®) are international enquiry-based programs teaching students aged 6-16 (6-14 in USA/CAN/MX) about science, technology, engineering and math. Through the process, the students obtain core life skills ("Core Values") such as problem-solving, critical thinking and team-work.

Both Jr.FLL and FLL are topic-based. Over the years, students participating in the programs have looked at a number of annual "Challenge" topics. They include:

- Keeping food safe
- Helping older people stay independent, engaged and connected
- Natural disasters.

As classroom resources, the programs:

- Promote student engagement
- Allow for differentiation
- Promote self-directed learning
- Have real-life connections.

More than 265,000 students from over 80 countries take part on annual basis.

Junior *FIRST* LEGO League (Jr.FLL)

For children aged 6-9, Jr.FLL captures students' curiosity and directs it toward science and technology. Guided by an adult coach, students get to:

- Design and build a Challenge-related LEGO model with motorized parts
- Create a *Show Me* poster
- Present their work at an event to grown-up, volunteer "reviewers".

Find out how you can get young students hooked on science and technology at **jr*FIRST*LEGOLeague.org**

Junior FIRST® LEGO® League

LEGO® Education BuildToExpress

Ignite reflection and self-expression

Children have all sorts of theories about how the world works. What they don't always have is the ability and tools to help them express these thoughts - or the opportunity to be able to reflect about the world around them, their thoughts or their feelings.

In an inclusive, non-judgmental and highly-motivated environment, BuildToExpress enables all your students to communicate as equals. It is a genuinely creative teaching aid allowing everyone to be involved and to take an active role in the learning process, transforming you - the teacher - into a true hands-on facilitator.

Key learning values

- BuildToExpress encourages reflection and gives students the opportunity to express on the world around them
- BuildToExpress develops and strengthens 21st century skills enabling students to communicate more effectively, enhancing creativity and their critical-thinking ability
- BuildToExpress promotes a cooperative learning environment and gives all students an equal voice

BuildToExpress Core Set

45110

1-6 | 200 | 6+ yrs

The set includes 200 LEGO® elements in a separate storage unit. They have been carefully selected to provide a broad spectrum of “ready-made metaphors”. The colorful bricks, accessories and Minifigures inspire students and stimulate their creative thinking and imagination.

BuildToExpress Guide & Activity Pack

2045111

www | 6+ yrs

Contains practical guidance on introducing and working with the BuildToExpress concept. Enables you to hear other teachers’ experiences and includes 30 age-segmented, core-curriculum-based Build & Share Challenge Cards as well as plenty of ready-prepared activities for you to work with.

Classroom Solutions

5 students

30 students

Reflection
DIALOGUE
LISTENING
speaking
Reflection

BuildToExpress Package - 5 students

- LEGO® Education BuildToExpress Core Set (45110) — 5
- LEGO® Education BuildToExpress Guide & Activity Pack (2045111) — 1

www | 6+ yrs

BuildToExpress Package - 30 students

- LEGO® Education BuildToExpress Core Set (45110) — 30
- LEGO® Education BuildToExpress Guide & Activity Pack (2045111) — 1

www | 6+ yrs

FIND OUT ABOUT LEGO® EDUCATION ON LEGOeducation.com

LEGO® Education Middle School

Grow critical thinking and creativity

Collaboration
Communication
Creativity
Critical thinking
Problem-solving

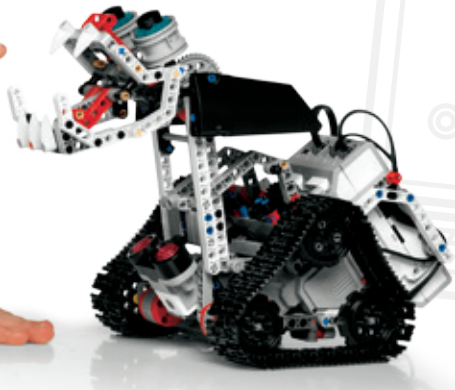
education

Middle School

We support teachers to grow students' critical thinking and creativity for a digital future

LEGO® Education enables every student to succeed in middle school by growing critical thinking and creativity. Through real-life themes and physical and digital creation, we support middle school teachers with effective, structured and curriculum-relevant STEM solutions. These solutions enable all students to understand challenging subjects, encourage them to develop critical thinking, grow their ideas and make their own creations through **playful learning experiences.**

Let's create the critical thinkers of tomorrow



LEGO® Education BuildToExpress

Ignite reflection and self-expression

BuildToExpress is a unique tool helping you to ignite all your students to reflect and express on their world around them, but also to reflect and understand challenging and tricky curriculum related topics. They may use the concept to discuss a novel, to prepare for a design challenge or to debate for instance democracy.

BuildToExpress is a method for addressing virtually any curriculum subjects and learning outcome. Educators can use the tool to tailor their lesson plans.

Key learning values

- BuildToExpress encourages reflection and gives students the opportunity to express on the world around them
- BuildToExpress develops and strengthens 21st century skills enabling students to communicate more effectively, enhancing creativity and their critical-thinking ability
- BuildToExpress promotes a cooperative learning environment and gives all students an equal voice

BuildToExpress Core Set

45110 1-8 | 200 | 6+ yrs

The set includes over 200 LEGO® elements in a separate storage unit. They have been carefully selected to provide a broad spectrum of “ready-made metaphors”. The colorful bricks, accessories and Minifigures inspire students and stimulate their creative thinking and imagination.

BuildToExpress Guide & Activity Pack

2045111 www | 6+ yrs

Contains practical guidance on introducing and working with the BuildToExpress concept. Enables you to hear other teachers’ experiences and includes 30 age-segmented, core-curriculum-based Build & Share Challenge Cards as well as plenty of ready-prepared activities for you to work with.

Classroom Solutions

5 students

30 students

Reflection
DIALOGUE
LISTENING
speaking
Reflection

BuildToExpress Package - 5 students

- LEGO® Education BuildToExpress Core Set (45110) — 5
- LEGO® Education BuildToExpress Guide & Activity Pack (2045111) — 1

www | 6+ yrs

BuildToExpress Package - 30 students

- LEGO® Education BuildToExpress Core Set (45110) — 30
- LEGO® Education BuildToExpress Guide & Activity Pack (2045111) — 1

www | 6+ yrs

LEGO® Education Machines & Mechanisms

Discover how the real world works

Machines & Mechanisms from LEGO® Education is a range of challenging hands-on tools that link book-learning in science, technology, engineering and math to real-world phenomena.

Using specially compiled LEGO® elements to cover advanced topics like pneumatics and renewable energy, **Machines & Mechanisms** provides a compelling means of investigating mechanical principles, while encouraging students to engage in scientific inquiry and engineering design.

Machines & Mechanisms is easy to incorporate into everyday classwork, where it adds variation and motivates middle school students to acquire curriculum-relevant knowledge and skills.

Technology
Science
Engineering Design
Real Life
Applied Math

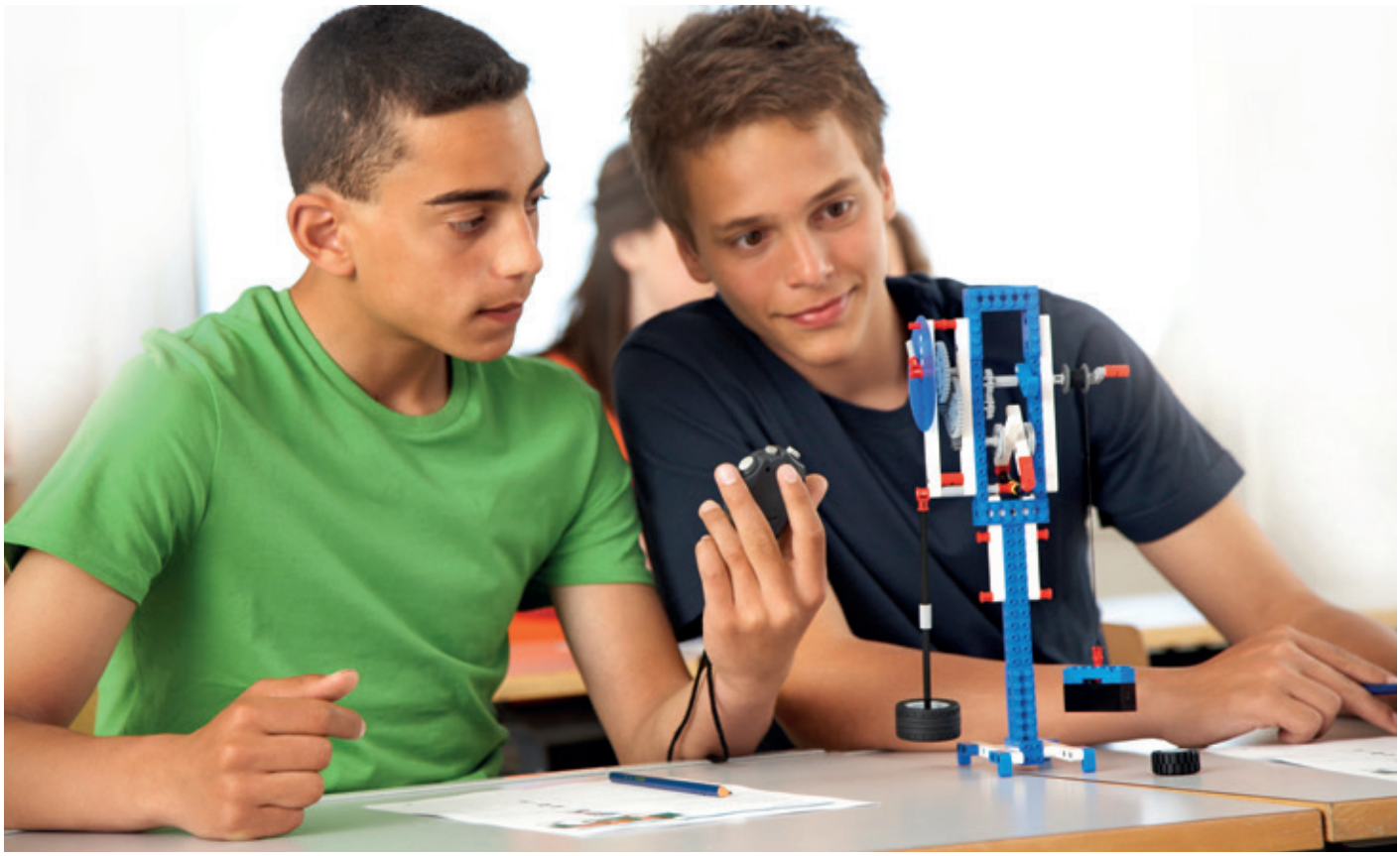
LEGO® Education
Machines & Mechanisms

NATIONAL CURRICULUM STANDARD COMPLIANT

Simple & Powered Machines Set

Simple & Powered Machines Curriculum Pack and building set provide comprehensive materials that start with the principled behind all six simple machines, then add complex mechanisms such as gears and cams. Topics cover concepts in forces and motion, measuring, energy and structures.

The activities progress to more challenging applications using machines powered with a motor. Students ask relevant scientific and technical questions, reflect on what they observe, discuss their results, formulate conclusions based on evidence and communicate with their fellow student scientists and engineers.



Simple & Powered Machines Set

9686

The core brick set in our range of Machines & Mechanisms solutions, this set includes full-color building instruction booklets for 10 principle models and 18 main models. Combine with curricular-relevant activity packs and add-on sets to carry out a broad range of activities within design technology, science and mathematics.

Advancing with Simple & Powered Machines Activity Pack

Building on already acquired skills, **Advancing with Simple & Powered Machines** from LEGO® Education gives students in grades 5-8 a more in-depth understanding of how simple machines and mechanisms work, while helping them further investigate concepts such as forces, motion, measuring and energy.

Key learning values

- Investigating the principles of simple machines, mechanisms and structures
- Mechanical advantage
- Balanced and unbalanced forces
- Equilibrium
- Block and tackle
- Effect of force on an object
- Experimenting with friction
- Calculating speed, distance, time and weight
- Identifying dependent and independent variables

Advancing with Simple & Powered Machines

2009693

www 10+ yrs

Includes 38 models for studying principal concepts, four main investigation activities and six problem solving design engineering activities. Each main activity and problem solving activity is best with two consecutive classes, so in total 20 classes. The principal models come with materials and quick activities. However, if you choose to spend a set number of classes on all of the principles, plan an additional six to eight classes.

Classroom Solutions

Simple & Powered Machines Set Package - 2-3 students

• LEGO® Education Simple & Powered Machines Set (9686)	1
• Introducing Simple & Powered Machines (2009692)	1
• LEGO® Education Advancing with Simple & Powered Machines (20009693)	1

www 8+ yrs

Simple & Powered Machines Set Package - 30 students

• LEGO® Education Simple & Powered Machines Set (9686)	15
• Introducing Simple & Powered Machines (2009692)	1
• LEGO® Education Advancing with Simple & Powered Machines (20009693)	1

www 8+ yrs

2-3 students

30 students

Renewable Energy
Add-on set to Simple & Powered Machines

Key learning values

- Building and exploring renewable energy through real-life LEGO® models
- Exploring energy supply, transfer, accumulation, conversion and consumption
- Engaging students in engineering and design

Consisting of a Simple & Powered Machines Set, a Renewable Add-On Set and a special Activity Pack, **Renewable Energy** from LEGO® Education helps students in grades 5–8 explore solar, wind and water energy, plus meet curriculum goals in science, technology and engineering, by building their own real-life models.

20 lessons enabled

Renewable Energy Add-on Set

9688 12 www 8+ yrs

This exciting add-on set allows students to learn about renewable energy sources and can be used with the Simple & Powered Machines Set (9686) and LEGO® MINDSTORMS® Education (45544). The set includes a solar panel, turbine blades, a motor/generator, LED lights, an extension wire, a LEGO Energy Meter and full-color building instructions for six real-life LEGO models to build with 9686. Add the Renewable Energy Activity Pack (2009694) for detailed lesson plans to cover solar, wind and hydro power. Connected to the MINDSTORMS® EV3 brick, the energy meter works as a sensor and can be used for both programming and data logging. Activities and Building instructions for using 9688 with MINDSTORMS® can be downloaded free of charge at MINDSTORMSeducation.com.

Activity Pack for Renewable Energy Add-On

2009694 www 10+ yrs

This activity pack provides six 45-minute lessons and four problem-solving activities that allow students to explore the three major renewable energy sources, solar, wind and water, through real-life LEGO® models. Includes a wide range of real-life images, ideal for introducing them to the topic and task at hand. Teacher's notes, student worksheets and glossary included.

Pneumatics

Add-on set to Simple & Powered Machines

Pneumatics from LEGO® Education encourages logical and creative thinking and motivates students in grades 5–8 to engage in scientific inquiry and engineering design by building air-powered LEGO® models such as a scissor lift, a robotic hand and a stamping press.

Key learning values

- Building and exploring pneumatics through real-life LEGO® models
- Investigating power systems and components
- Pressure measuring in psi and bar
- Exploring kinetic and potential energy

Pneumatics Add-on Set

9641 31 www 10+ yrs

The Pneumatics Add-on Set for the 9686 Base Set provides five principle models and four real-life pneumatics models. Includes full-color building instructions, pumps, tubes, cylinders, valves, air tank and a manometer. Combine with the 2009695 activity pack to carry out 14 principle model activities, four new lesson plans and two problem-solving tasks.

Activity Pack for Pneumatics

2009695 www 10+ yrs

Includes 14 models for exploring principal concepts, four main activities and two problem solving activities. Each main activity and problem solving activity is best with two classes. Total: 12 classes (45 minutes each). The principal models come with reference materials and quick activities. However, if you choose to spend a set number of classes on all of the principles, plan an additional two classes (45 minutes each).

Energy Elements

Energy Display

9668 8+ yrs

This element displays input and output in volts, watts, amps and energy storage level in joules. Combine with 9669 Energy Storage to form the LEGO® Energy Meter.

Energy Storage

9669 8+ yrs

This Ni-MH battery with connector is designed to be combined with the 9668 Energy Display. When combined, the two elements form the LEGO® Energy Meter. Storage capacity: 150 mAh.

LEGO® Solar Panel

9667 8+ yrs

The Solar Panel provides sufficient power to operate the LEGO® Energy Meter and motors. It delivers: 5V, 4mA in direct light from a 60W incandescent bulb positioned 25 cm from the solar panel (>2000 lux); and 5V, 20mA in direct light from a 60W incandescent bulb positioned 8cm from the panel (>10,000 lux).

Power Functions Battery Box

8881 7+ yrs

Give even more power and movement to your models with an extra battery box to supply power to your Power Functions motors! Each battery box can power 2 XL-Motors or 4 M-Motors at the same time. Requires 6 AA (1,5V) batteries, not included.

E-Motor

9670 7+ yrs

The E-Motor is a 9V motor with an internal gearbox. Its 9.5:1 gearing ratio provides a maximum torque of 4.5 Ncm and approximately 800 rotations per minute without load. It also functions as a very efficient generator.

Power Functions Light

8870 7+ yrs

Add bright LED lights to your models to create glowing eyes, illuminated headlights, and anything else you can imagine and build.

Power Functions

Power Functions Extension Wire 20"

8871 7+ yrs

Build your Power Functions-equipped models bigger, better and more mechanized and motorized than ever before by adding this 20-inch (50 cm) extension wire.

Power Functions Extension Wire 8"

8886 7+ yrs

Build your Power Functions-equipped models bigger, better and more mechanized and motorized by adding this 8-inch (20 cm) extension wire.

LE Replacement Pack Rubber Bands

2000707

LEGO Education Replacement Packs are the ideal way to replace key elements for your LEGO Education products. This pack features four rubber bands in white, red, blue, and yellow for LME EV3 Expansion Set (45560), LME Base Set (9797), LME Resource Set (9695), Simple & Powered Machines Set (9686), LEGO Education WeDo Construction Set (9580), and LEGO Education WeDo Resource Set (9585).

Power Functions M-Motor

8883 7+ yrs

Build an extra medium-strength, medium-sized M-Motor into your LEGO® creations and watch things start moving.

Transformer 10V DC

45517 8+ yrs

This standard 10V DC transformer allows you to recharge your 9693 Rechargeable Battery or your 45501 EV3 Rechargeable Battery or 8878 Power Functions Rechargeable Battery Box.

LE Replacement Pack M&M 1

2000708

LEGO Education Replacement Packs are the ideal way to replace key elements for your LEGO Education products. This pack includes elements for Simple & Powered Machines Set (9686).

Power Functions XL-Motor

8882 7+ yrs

Build an extra medium-strength, medium-sized M-Mot
Add an extra XL-Motor to your models! This super-strong motor will give plenty of power to your models, whether it's spinning a wheel or turning a system of gears. Use the "M" Motor to animate larger builds. Requires battery box (Item 8881), not included.

Power Functions Rechargeable Battery Box

45517 7+ yrs

This rechargeable battery box has built-in Lithium polymer batteries for low weight and maximum power.

Use the 8887 10VDC LEGO® Transformer to charge the battery.

- Motor speed can be controlled via the battery box speed control dial!
- Output voltage is 7.4V.

LE Replacement Pack M&M 2

2000709

LEGO Education Replacement Packs are the ideal way to replace key elements for your LEGO Education products. This pack includes elements for Simple Machines Set (9689).

Classroom solutions for Renewable Energy

2-3 students

30 students

Renewable Energy Package - 2 students

• LEGO® Education Simple & Powered Machines Set (9686)	1
• LEGO® Education Renewable Add-On Set (9688)	1
• LEGO® Education Activity Pack for Renewable Energy Add-On (2009694)	1
• LEGO® Education Introducing Simple & Powered Machines (2009692)	1
• LEGO® Education Advancing with Simple & Powered Machines (2009693)	1

www 10+ yrs

Renewable Energy Package - 30 students

• LEGO® Education Simple & Powered Machines Set (9686)	15
• LEGO® Education Renewable Add-On Set (9688)	15
• LEGO® Education Activity Pack for Renewable Energy Add-On (2009694)	1
• LEGO® Education Introducing Simple & Powered Machines (2009692)	1
• LEGO® Education Advancing with Simple & Powered Machines (2009693)	1

www 10+ yrs

Classroom solutions for Pneumatics

2-3 students

30 students

Pneumatics Package - 2 students

• LEGO® Education Simple & Powered Machines Set (9686)	1
• LEGO® Education Pneumatics Add-On Set (9641)	1
• LEGO® Education Activity Pack for Pneumatics (2009695)	1
• LEGO® Education Introducing Simple & Powered Machines (2009692)	1
• LEGO® Education Advancing with Simple & Powered Machines (2009693)	1

www 10+ yrs

Pneumatics Package - 30 students

• LEGO® Education Simple & Powered Machines Set (9686)	15
• LEGO® Education Pneumatics Add-On Set (9641)	15
• LEGO® Education Activity Pack for Pneumatics (2009695)	1
• LEGO® Education Introducing Simple & Powered Machines (2009692)	1
• LEGO® Education Advancing with Simple & Powered Machines (2009693)	1

www 10+ yrs

Challenge your students

AND INTRODUCE THEM TO THE FASCINATING WORLD OF SCIENCE AND TECHNOLOGY

Junior *FIRST*® LEGO® League (Jr.FLL®) and *FIRST* LEGO League (FLL®) are international enquiry-based programs teaching students aged 6-16 (6-14 in USA/CAN/MX) about science, technology, engineering and math. Through the process the students obtain core life skills ("Core Values") such as problem-solving, critical thinking and team-work.

Both Jr.FLL and FLL are topic-based. Over the years, students participating in the programs have looked at a number of annual "Challenge" topics. They include:

- Keeping food safe
- Helping older people stay independent, engaged, and connected
- Natural disasters.

As classroom resources, the programs:

- Promote student engagement
- Allow for differentiation
- Promote self-directed learning
- Have real-life connections.

More than 265,000 students from over 80 countries take part on annual basis.

***FIRST* LEGO League (FLL)**

FLL is open for students aged 9-16 (9-14 in USA/CAN/MX). A FLL Challenge consists of two parts:

- A research assignment (the "Project") – research and come up with innovative ideas for solving a real-world problem
- A "Robot Game" – design and program a LEGO® MINDSTORMS® robot to solve missions on a special obstacle course.

After 8-10 weeks, the teams meet and compete at regional tournaments and present their work to panels of judges.

Find out how to join the challenging fun at ***FIRST*LEGOLeague.org**

FIRST® LEGO® League

WORLD ROBOT OLYMPIAD

Taking place in 50+ countries worldwide, an estimated 70,000 participants compete in 4 exciting competition categories:

- Regular – Design and program robots that solve challenging and fun tasks
- Open – Create and present theme-based robotics solutions
- WRO™ GEN II Football – teams of two autonomous robots play head-to-head in action-packed football (soccer) tournaments
- College Regular – and advanced challenge for students 17+.

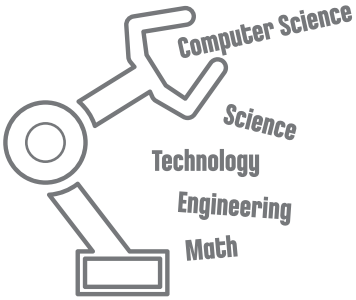
Local and national WRO tournaments are organized by the National Organizer in each member country. All member countries qualify teams that are invited to participate in the annual WRO international final.

Find out how to get involved at wroboto.org

LEGO Education is a Premium Sponsor of World Robot Olympiad Association.

LEGO® MINDSTORMS® Education EV3

Instant STEM learning with best in class robotics solutions



LEGO® MINDSTORMS® Education

NATIONAL CURRICULUM STANDARD COMPLIANT

With LEGO® MINDSTORMS® Education, the greatest challenge you'll face is getting your students to leave the classroom!

LEGO MINDSTORMS Education EV3 grows critical thinking and students' creativity in computer science, science, technology, engineering and math. You can be up and running in less than 45 minutes with full support from 48 step-by-step tutorials and a guide to the EV3 programming language and hardware functions.

Over the past decade, LEGO MINDSTORMS Education has enabled students to solve authentic design and engineering problems with continued firmware support and software updates.

Ignite students' instant STEM learning with best in class robotics solutions to encourage critical thinking and creative learning through real-life problem solving with LEGO MINDSTORMS Education EV3.

Models shown above are examples of what can be built with this set.
These models are not to scale.

Explore real-time results with data logging

Data Set Calculation

- Unique calculator interface
- Three dataset average
- From one value to another
- From rotational counts via speed to acceleration

Data Logging

Predict, collect, and analyze

- Log data and view live graphs
- Basic and advanced analysis tools
- Easily export data to spreadsheets

Graph Programming

- New and unique feature
- Execute actions based on data readings
- Makes Science experiments come alive
- Increase student understanding of graphs and data formulas

LEGO® MINDSTORMS® Education EV3 Core Set

45544

1-3 | 541 | www | 10-21 yrs

This core set is optimized for classroom use and contains all you need to start teaching science, technology, engineering, math and computer science using the exciting LEGO® MINDSTORMS® concept. It enables students to build, program and test their solutions based on LEGO building bricks, combined with real-life robotics technology. The system contains the EV3 Intelligent 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 core set comes in a sturdy storage box with a sorting tray for easy classroom use and includes three servomotors, five sensors (gyro, ultrasonic, color and 2x touch), a rechargeable battery, connecting cables, printed and digital building instructions, and LEGO® Technic building bricks for creating a wide variety of models. Software is available in both desktop and tablet app versions. Battery charger (45517 Transformer 10V DC) is sold separately.

Software included

Easy to use programming software creates digital confidence

Key learning values

- Design and build programmable robots using high quality motors, sensors, gears, wheels, axles and other technical components
- Use input and output devices to produce simple sequences and commands linking cause and effect
- Use intuitive prediction tools to gain first-hand experience in forming hypotheses
- Integrate math and science using physical constraints, units of measurement, coordinate systems, min, max, mean and linear

Replacement Packs Available
See page 82

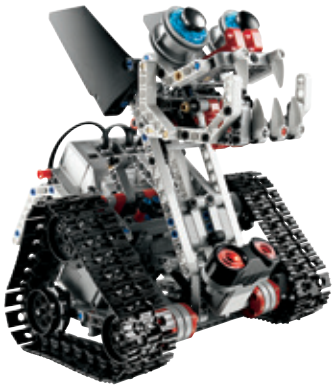
LEGO® MINDSTORMS® Education EV3 Expansion Set

45560

1-3 | 853 | www | 10-21 yrs

This set contains a wide range of supplementary elements to continue the theme of critical thinking and creativity featured in the EV3 Core Set. It is designed to allow students to take their robotics experience to the next level and includes a wide variety of special elements, such as different gears, a large turntable, robot personalization parts, unique structural elements, beams, axles and connectors. This set helps students build larger and more complex models, while also providing extra or replacement elements. The expansion set comes in a sturdy storage box with a sorting tray for easy classroom use. Additional building instructions and programs for several models are available from LEGOeducation.com/MINDSTORMS. Requires the 45544 LEGO MINDSTORMS Education EV3 Core Set and 45517 Transformer 10V DC.

Replacement Packs Available
See page 82



Models shown above are examples of what can be built with this set. These models are not to scale.

EV3 Design Engineering Projects Activity Pack

2005544 www 10-21 yrs

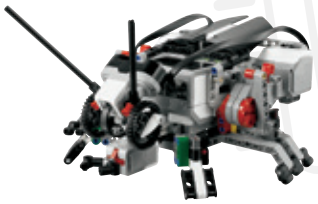
The Design Engineering Projects curriculum pack lets your students work with open-ended problem-solving activities, in a context that makes it fun and engaging to learn science, technology, engineering and math. The material is divided into three main sections: Make it move, Make it smarter and Make a system. Each section includes five design projects. All 15 projects follow a design engineering process, as used by real-life engineers, which provides a structured flow through the activities, starting with a design brief explaining the challenge, and culminating in a final project that can be shared and presented. As they complete each project, the students capture their work with the built-in digital workbook, making it easy to follow and assess their progress.
This structure is designed to help students develop the 21st-century creative thinking, problem solving, teamwork and communication skills required for success in school and beyond. The curriculum package delivers 30 hours of classroom teaching and is written to match national curriculum standards. The EV3 software includes briefs and inspirational material for students, teacher notes, example solutions and instructions for building ideas. Requires the 45544 LEGO® MINDSTORMS® Education EV3 Core Set and 45517 Transformer 10V DC.

15 projects deliver 30 hours of teaching

Key learning values

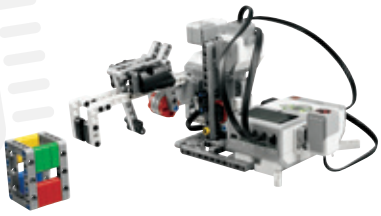
- Understand and use mathematical concepts, such as proportions and ratios, graphing data, and multi-digit computation
- Apply knowledge of science concepts, such as speed and power, motion and stability and forces and interactions
- Troubleshoot, innovate, and experiment in problem solving

Students become real engineers through problem solving



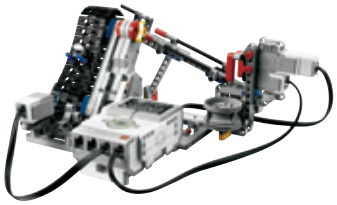
Make it move

- Understand forces and motion - Measure and calculate distance and average speed
- Graph and interpret rotation sensor data
- Observe the transfer of energy driving motion
- Use knowledge of simple machines to build more complex machines
- Understand and program geometric patterns
- Use ratios to describe proportional relationships



Make it smarter

- Use sensors to control behavior and to measure, graph and analyze data, including percentage of reflected and ambient light, discrete color values, distance, angle in degrees and motor rotations
- Develop robots capable of more complex thinking using logical structures and sensor feedback - Imitate the responses of living organisms
- Calculate using decimals and fractions



Make a system

- Understand that complex systems are created from subsystems
- Design, build and program a functioning robotic system.
- Test robotic systems
- Use feedback as evidence to decide ways to improve and optimize a system or to approve the success of the system
- Develop robotic systems related to manufacturing transportation, communication and other technologies

Bring physical science experiments to life

EV3 Science Activity Pack

2005576 www 10-21 yrs

This curriculum pack has been developed together with Fraunhofer IAIS, Europe's largest application-oriented research organization, and real science teachers. The pack consists of 14 engaging physical science experiments for middle school, utilizing the data-logging capabilities of the LEGO® MINDSTORMS® Education EV3 hardware and software. Experiments are centered on energy (energy production and consumption), heat and temperature (melting points, insulation, and heat transmission), force and motion (mechanics and kinematics), and light (light intensity). Each experiment is designed to meet national curriculum standards, structured to fit a 45 to 90-minute science lesson, and incorporates small, engaging LEGO models that are easy to build and program. The EV3 software includes student-ready materials, teacher notes, building instructions, and sample programs. Requires the 45544 LEGO MINDSTORMS Education EV3 Core Set, 45517 Transformer 10V DC, 9688 Renewable Energy Add-on Set, and the 9749 Temperature Sensor.

Key learning values

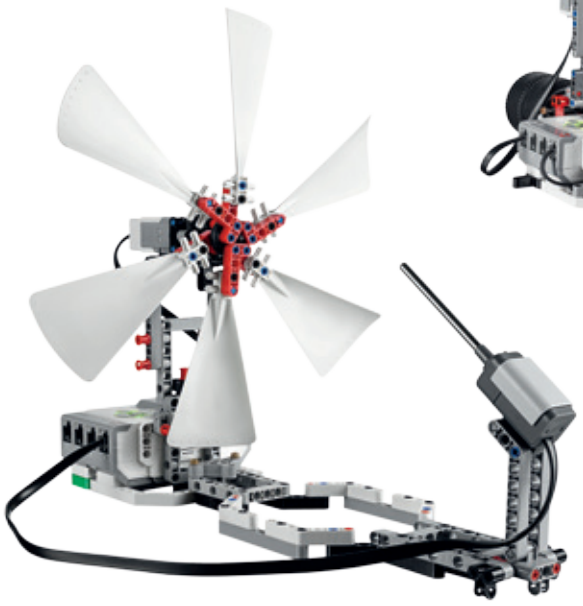
- Ask questions, develop, and use models
- Plan and carry out investigations
- Analyze and interpret data
- Use mathematics, informational and computer technology and computational thinking
- Construct explanations and designing solutions

Light

The phenomenon of light intensity is investigated using this experiment.

Force and Motion

Experiments relate to mechanical and kinematic phenomena, including gears, friction and inclined planes and free fall.



Heat and Temperature

The Heat and Temperature experiments are used to study the phenomena of insulation and heat transfer.

Energy

Experiments related to energy - from manual energy transfer to wind and solar energy to electric vehicles.

EV3 Space Challenge Set

45570 1-8 | 1418 | www | 10-21 yrs

This theme-based set supports the 2005574 EV3 Space Challenge Activity Pack. It contains three learning mats, a challenge mat, dual lock tape and all the LEGO® elements required to build the eight challenge models. Requires the 45544 LEGO MINDSTORMS Education EV3 Core Set, 45517 Transformer 10V DC and 2005574 EV3 Space Challenge Activity Pack.

Teach STEM with a Mission to Mars

Key learning values

- Easy start with robotics and STEM subjects
- Real-world applications in problem-solving
- Develop solutions through teamwork skills
- Learn to build, test and evaluate robots
- Hands-on experience with programming, sensors, motors and intelligent units

Replacement Packs Available
See page 82

EV3 Space Challenge Activity Pack

2005574 www | 10-21 yrs

The Space Challenge curriculum pack is for all educators that want to teach science, technology, engineering and math through hands-on problem solving. This theme-based material consists of seven Challenge Missions, nine Learning Missions and one Basics of Gears project. Each mission and project presents a fun and engaging STEM learning opportunity. Three research projects, co-developed with space experts, provide rich opportunities for students to explore and create innovative solutions to current space exploration topics. The Space Challenge conforms with national curriculum standards and enables students to take responsibility for their own learning. They work as young scientists and engineers, immersing themselves in motivating STEM activities that develop creative problem-solving, communication and teamwork skills. As they complete each project, the students capture their work with the built-in digital workbook, making it easy to follow and assess their progress. The EV3 software includes student-ready materials, teacher notes and building instructions. Requires the 45544 LEGO MINDSTORMS Education EV3 Core Set, 45517 Transformer 10V DC, and 45570 EV3 Space Challenge Set.

Conduct 7 Challenge Missions and 9 Learning Missions on Mars

Models shown above are examples of what can be built with this set.

Step-by-step teacher training

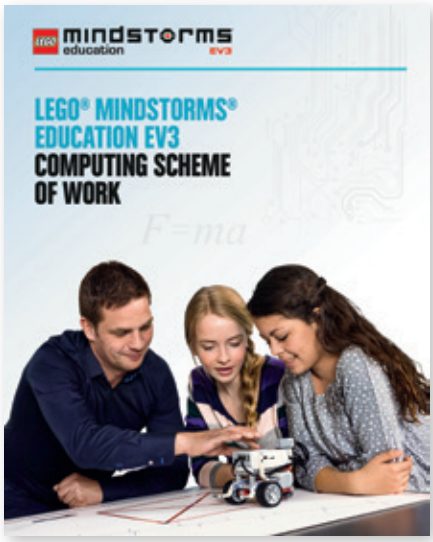
15 online courses with more than 100 videos take you from beginner to classroom ready

E-Learning: Getting Started with EV3

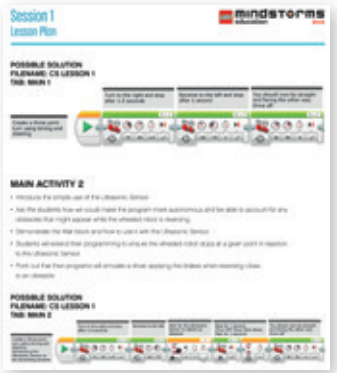
2000525 www 10+ yrs

E-learning for LEGO® MINDSTORMS® Education EV3 consists of more than 100 self-paced video lessons in full HD, led by LEGO Education Academy Master Trainer, Rob Widger. These online lessons are organized into 15 courses, taking you from complete beginner to classroom ready. Each course lasts approximately 90 minutes, including build time and activities. Lessons include downloadable resource materials, ready-made sample programs and "test your knowledge" quizzes to strengthen the learning process. Your progress is tracked, making it easy to pick up where you left off. Obtain the official Certificate of Completion upon successfully completing the Certificate quiz. This resource will help get you up and running with EV3 in no time - both on desktop and tablet. Requires the 45544 LEGO MINDSTORMS Education EV3 Core Set and 45517 Transformer 10V DC.

Teach computing with real-world examples



12 lessons providing 36 hours of classroom teaching



EV3 Computing Scheme of Work

2005579 www 11-16 yrs

This curriculum pack provides extensive content for teachers to deliver the Computing or Computer Science curriculum, providing ample cross-curricular opportunities in design and technology, science and math. Engage your students with real-world examples, enabling them to apply and develop their programming knowledge to topics such as vehicle reversing warning systems, keyless ignition systems and cruise control. The activities are delivered in PDF format for easy printing and will help teachers inspire students to discover the importance of computer programming in our everyday lives. The Computing Scheme of Work conforms with national curriculum standards and consists of 12 sessions, providing approximately 36 hours of classroom teaching. It includes student work cards, teacher support, programming examples and possible solutions. Requires the 45544 LEGO MINDSTORMS Education EV3 Core Set and 45517 Transformer 10V DC.

EV3 Classroom Solutions

LEGO® MINDSTORMS® Education EV3 Package – 2 students

- LEGO® MINDSTORMS® Education EV3 Core Set (45544) 1
- LEGO® MINDSTORMS® Education Transformer 10V DC (45517) 1
- LEGO® MINDSTORMS® Education EV3 Expansion Set (45560) 1
- LEGO® MINDSTORMS® Education EV3 Design Engineering Projects Site License (2005544) 1

www 10-21 yrs

LEGO® MINDSTORMS® Education EV3 Package – 30 students

- LEGO® MINDSTORMS® Education EV3 Core Set (45544) 15
- LEGO® MINDSTORMS® Education Transformer 10V DC (45517) 15
- LEGO® MINDSTORMS® Education EV3 Expansion Set (45560) 8
- LEGO® MINDSTORMS® Education EV3 Design Engineering Projects Site License (2005544) 1

www 10-21 yrs

Main Components

Transformer 10V DC

45517 — 1 | www | 8+ yrs

EV3 Intelligent Brick

45500 — 1 | www | 10-21 yrs

EV3 Rechargeable DC Battery

45501 — 1 | www | 10-21 yrs

EV3 Large Servo Motor

45502 — 1 | www | 10-21 yrs

EV3 Medium Servo Motor

45503 — 1 | www | 10-21 yrs

EV3 Cable Pack

45514 — 7 | www | 10-21 yrs

Sensor Elements

Temperature Sensor

9749 — 1 | www | 8+ yrs

EV3 Ultrasonic Sensor

45504 — 1 | www | 10-21 yrs

EV3 Gyro Sensor

45505 — 1 | www | 10-21 yrs

EV3 Color Sensor

45506 — 1 | www | 10-21 yrs

EV3 Touch Sensor

45507 — 1 | www | 10-21 yrs

EV3 Infrared Beacon

45508 — 1 | www | 10-21 yrs

EV3 Infrared Sensor

45509 — 1 | www | 10-21 yrs

LE Replacement Pack LME 1

2000700

LEGO® Education Replacement Packs are the ideal way to replace key elements for your LEGO Education products. This pack includes elements for LME EV3 Core Set (45544), LME EV3 Expansion Set (45560), LME Base Set (9797) and LME Resource Set (9695).

LE Replacement Pack LME 2

2000701

LEGO® Education Replacement Packs are the ideal way to replace key elements for your LEGO Education products. This pack includes elements for LME EV3 Expansion Set (45560), LME Base Set (9797) and LME Resource Set (9695).

LE Replacement Pack LME 3

2000702

LEGO® Education Replacement Packs are the ideal way to replace key elements for your LEGO Education products. This pack features a ball and ball joint for the LME EV3 Core Set (45544).

LE Replacement Pack LME 4

2000703

LEGO® Education Replacement Packs are the ideal way to replace key elements for your LEGO Education products. This pack includes elements for Green City Challenge Set (9594).

LE Replacement Pack LME 5

2000704

LEGO® Education Replacement Packs are the ideal way to replace key elements for your LEGO Education products. This pack includes elements for EV3 Space Challenge Set (45570).

LE Replacement Pack LME 6

2000705

LEGO® Education Replacement Packs are the ideal way to replace key elements for your LEGO Education products. This pack features elements for LME Base Set (9797), LME Resource Set (9695), LME EV3 Expansion Set (45560) and LME EV3 Core Set (45544).

LE Replacement Pack LME 7

2000706

LEGO® Education Replacement Packs are the ideal way to replace key elements for your LEGO Education products. This pack features elements for LME Base Set (9797), LME Resource Set (9695), LME EV3 Expansion Set (45560) and LME EV3 Core Set (45544).

LE Replacement Pack Rubber Bands

2000707

LEGO® Education Replacement Packs are the ideal way to replace key elements for your LEGO Education products. This pack features four rubber bands in white, red, blue and yellow for LME EV3 Expansion Set (45560), LME Base Set (9797), LME Resource Set (9695), Simple & Powered Machines Set (9686), LEGO Education WeDo Construction Set (9580) and LEGO Education WeDo Resource Set (9585).

For more information visit LEGOeducation.com

The LEGO® Education Innovation Studio

Districts and Schools are looking for new ways to meet the growing demands to raise standards and tomorrow's scientists and engineers are sitting in your classrooms today, just waiting to be encouraged, inspired and activated.

LEGO® Education Innovation Studio is the complete solution, offering an inspiring classroom environment and teacher training program that supports teachers to engage every student in playful learning experiences using K-12 curriculum, subject specific physical and digital assets.

Key elements of a LEGO Education Innovation Studio

- A unique classroom environment for playful learning experiences
- Décor package, classroom management system and suggested furniturings
- Key support in teaching Computing, D&T, Science, Maths, Language and Literacy based on LEGO Education solutions
- Professional development program for teachers
- Three year service and support agreement

Your Innovation Studio will become a hub for the local community, bringing together schools, teachers, parents and companies to provide an education for your students that will last a lifetime.

For more information visit LEGOeducation.com

Engaging Resources

Relevant Training

Creative Classroom

Establishing the LEGO® Education Innovation Studio

- is an easy, three step process, done in cooperation between you and one of our local LEGO® Education representatives.

Step 1:
Select the LEGO Education Resources

Step 2:
Select the Teachers Training from LEGO Academy

Step 3:
Create Your Classroom Environment

Step 1: Select the LEGO Education Resources

Together we compile a range of LEGO Education classroom solutions designed specifically for your school's needs.

Grade 1 & 2

Mathematical Problem Solving Competencies

LEGO® Education MoreToMath

LEGO® Education MoreToMath 1-2 helps teachers make abstract math tangible and ignites students' learning of the competencies needed to do mathematical problem solving.

Grade 2+

Reading, Writing, Speaking and Listening

LEGO® Education StoryStarter

StoryStarter is a hands-on tool that inspires students to collaborate, while creating and communicating stories using LEGO bricks and the creative digital interface.

Grade 2 - 5

Science - including Engineering, Technology and Coding

LEGO® Education WeDo 2.0

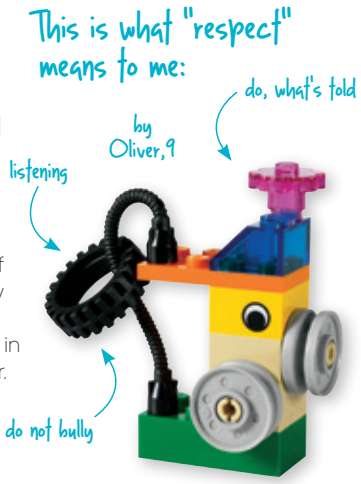
WeDo makes science come to life, while building students' confidence to ask questions, define problems and design their own solutions.

Grade 1+

Language and Communication

LEGO® Education BuildToExpress

BuildToExpress empowers students of all abilities to creatively communicate their thoughts and feelings in a constructive manner.



Grade K - 8

D&T, Science, Math and Engineering

LEGO® Education Machines & Mechanisms

Machines & Mechanisms focuses on the scientific principle, and not only the practical end-result. All activities challenge your students and inspire them to explore ideas, ask questions, investigate motorised real-life models... all using Machines & Mechanisms

Grade 5+

Computing, D&T, Science, Math and Engineering

LEGO® MINDSTORMS® Education EV3

EV3 enables students to program and build solutions to real-life problems. The digital workbook, content editor and data logging features, make it the complete classroom solution.

Step 2: Select the Teacher Training From LEGO® Academy

As part of your studio package, teachers will get four full days of training by a qualified LEGO Education trainer at a time convenient for you.

Key elements of the Teacher Training

- Recognize and understand the LEGO® Education Learning Philosophy
- Construct a range of LEGO Education models, both from guides and through creativity
- Understand and apply the LEGO Education approach
- Start to identify curriculum opportunities within each set
- Start providing learning with their students with the LEGO Education resources

All of your further teacher training sessions are tailored to meet your specific needs and to ensure you get the maximum use of your LEGO Education resources.

Training program over three years

Step 3: Create Your Classroom Environment

Storage solutions for LEGO® Education

Recommended furniture suppliers have developed a range of furniture and storage opportunities for your LEGO Education Innovation Studio. It creates the ideal classroom management for activities, storage boxes and models.

Together with the Décor and Classroom management package with wall décor elements and a labeling system for the storage boxes, you are one-step further ensuring a seamless learning experience. The project table also works perfectly with the Challenge mats from LEGO® MINDSTORMS® Education EV3, FIRST® LEGO® League as well as WRO™.

Contact your local LEGO Education contact for more info

FIND OUT ABOUT LEGO® EDUCATION ON LEGOeducation.com

LEGO® Education Afterschool

Unfold every child's full potential

LEGO® Education Afterschool Programs

Further build on children's traditional learning experiences

The engaging LEGO® brick and a playful learning philosophy, built on over 35 years experience in education, provides hands-on minds-on activities.

The Programs deliver specific learning outcomes in respect of each child's age and character, building not only children's academic competencies but also their 21st century skills such as creativity, communication, collaboration and critical thinking.

Our qualified teachers use a specifically designed teaching method and workbooks, to best facilitate each child's learning and provide regular feedback to parents.

LEGO Education Afterschool Programs offer unique and engaging learning experiences to further unfold each child's full potential.

400+ Lessons of Afterschool Programs

	Cross All Curriculum	Social Studies	Language & Literacy	Math	Technology	Science	Engineering	Computing
Middleschool Ages 10-13					World of Robotics 2 / World of Robotics 1			
Elementary Ages 6-9			Story Investigators	Math City	World of Science / Innovator			
Preschool Ages 3-5	Inventor / Creator / Explorer							

The Story Investigators Program

For ages 7+

The Story Investigators consists of 24 lessons using the StoryStarter Core Set and the StoryVisualizer Software and StoryVisualizer Project Files. The Story Investigators Workbook helps students to analyze, report and write stories in the concept of helping the Story Detective, the Story Reporter and the Story Writer characters.

Featuring LEGO® Education StoryStarter. **See pages 31-36**

Key learning values

- Strengthens literacy skills
- Improving writing and reading abilities
- Enhances communication skills
- Improves collaboration skills
- Develops comprehension skills
- Enhances speaking and listening

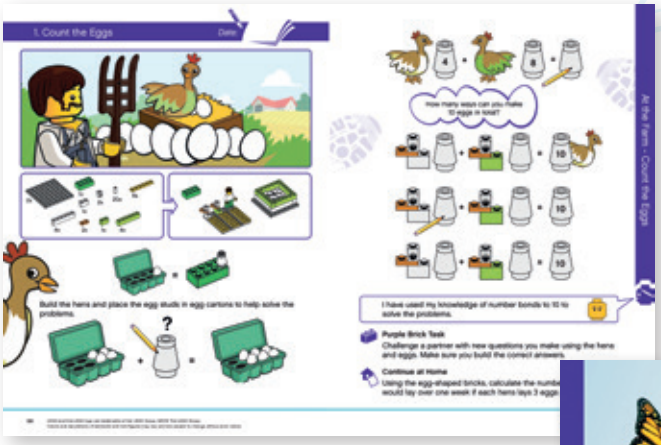
24 Lessons

Workbook and teacher's guide

LEGO® Education StoryStarter Core Set (45100)

Math City Program

For ages 6+



24 Lessons

24 lessons of adventures with Max and Mia, as they travel around Math City, helping people with their everyday math. With lessons linked to the math curriculum including problem-solving, symmetry and number bonds, learning is based on developing the students' math skills, matched to their understanding of applying number in many real world situations.

Featuring LEGO® Education MoreToMath. **See pages 37-42**

Workbook and Teachers Guide

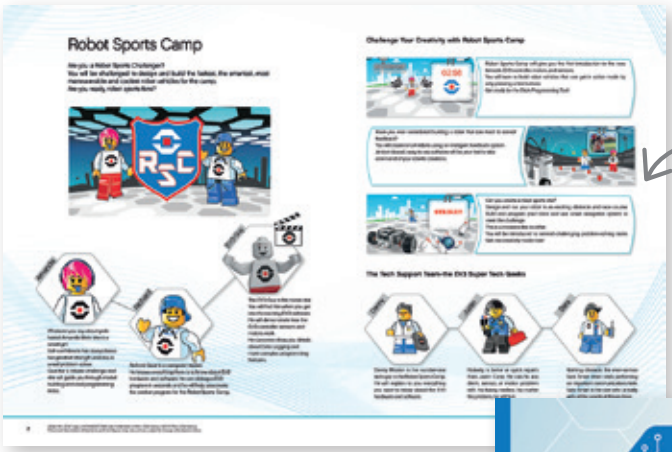
LEGO® Education MoreToMath Core Set 1-2 (45210)

Key learning values

- Problem solving competencies
- Numeracy, operations in base 10
- Algebraic thinking, measurement
- Data, geometry and spatial awareness
- Modelling and representation

World of Robotics 1

For ages 10+



48 Lessons

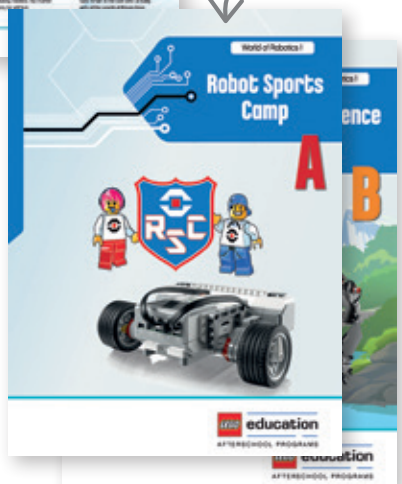
World of Robotics 1 is a series of 48 lessons based on stories and characters that help to inspire the students to complete their tasks in playful and imaginative ways.

4 Workbooks

Each Workbook has a different theme, where the characters play a certain role coming up with inventive robotic solutions or guide the students through the problem-solving and engineering processes.

Featuring LEGO® Mindstorms® Education EV3. **See pages 73-82**

Workbook and teacher's guide

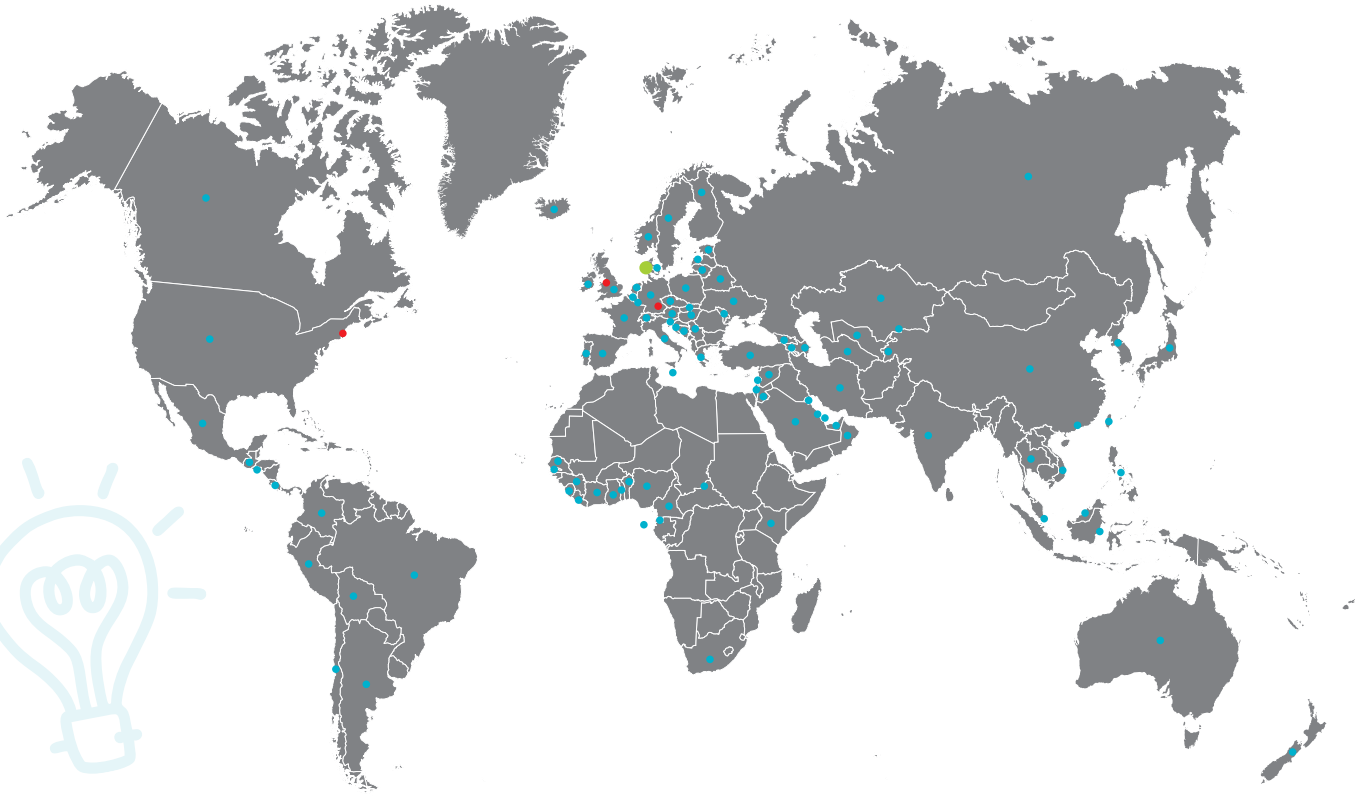


LEGO® MINDSTORMS® Education EV3 Core Set (45544)

Key learning values

- Design, build and program robots
- Test and debug programs
- Use input and output devices
- Use intuitive prediction tools
- Troubleshoot and innovate
- Multi-digit computation

Together with our distributors we support teachers all over the world



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Awards for enabling students to succeed

GESS
GLOBAL EDUCATIONAL SUPPLIES & SOLUTIONS

LEGO® MINDSTORMS® Education EV3 - 2014
StoryStarter - 2014

worlddidac AWARD 2014

LEGO® MINDSTORMS® Education EV3 - 2014
StoryStarter - 2014

腾讯网 qq.com

LEGO® Education - Most Influential Education Brand in China, 2014

1. PLATZ TOMMI 2014

StoryStarter - 2014

PopMech EDITOR'S CHOICE AWARDS 13

LEGO® MINDSTORMS® Education EV3 - 2013

2013 PRIMARY TEACHER Awards

LEGO® Education BuildtoExpress Getting Started Set - 2013

2011 5to7 Awards GOLD

Community Minifigure Set + Fairytale & Historic Minifigure Set - 2011

Award 2010

WeDo - 2010

LEGOeducation.com

LEGO education