LEGO® Education BricQ Motion

ENCOURAGE STUDENTS TO DISCOVER PHYSICAL SCIENCE IN ACTION

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Hands-On Learning with LEGO® Education Solutions

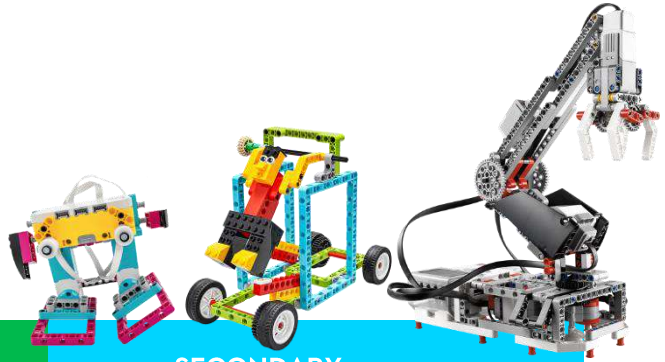
Learning Is "Hands-On" and "Minds-On[1]"

- Increases brain activation related to agency, decision-making, and flow[2]
- Enhances memory encoding and retrieval processes that support learning[3]
- Allows the brain to exercise the networks responsible for executive control skills, such as tuning out distractions, which benefits short-term and lifelong learning[4]

Every hands-on solution incorporates our five characteristics of playful learning: joyful, actively-engaging, socially-interactive, iterative, and meaningful.

1. Learning through play: a review of the evidence, The LEGO Foundation, Jennifer M. Zosh, Emily J. Hopkins, Hanne Jensen, Claire Liu, Dave Neale, Kathy Hirsh-Pasek, S. Lynneth Solis, and David Whitebread, November 2017
2. Kuhn, Brass, & Haggard, 2012
3. Johnson, Singley, Peckham, Johnson, & Bunge, 2014
4. Diamond, 2013

The LEGO® Education Learning Continuum



EARLY LEARNING	PRIMARY	SECONDARY
STEAM Park Coding Express ...and many more	WeDo 2.0 **BricQ Motion Essential**	LEGO® Education SPIKE™ Prime **BricQ Motion Prime** LEGO MINDSTORMS® Education EV3

PROFESSIONAL DEVELOPMENT

What *is* LEGO® Education BricQ Motion?

Delivering Strong Learning Outcomes

Encourage students to discover physical science in action!

They will:

- Investigate push and pull forces and use evidence to solve problems
- Apply scientific inquiry skills to show how the forces acting on an object can change its motion
- Practice applying cause and effect & balanced and unbalanced forces to design, develop, and optimize a solution
- Strengthen oral communication skills as they participate in collaborative conversations and present their ideas

INTRODUCTORY	EASY HANDS-ON	PHYSICAL SCIENCE
Offers a simple introduction to the LEGO® Education way of learning	Cool "aha" moments by setting bricks in motion; no technology is required	Standards-aligned physical science curriculum units

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What is LEGO® Education BricQ Motion Essential?

LEGO® Education BricQ Motion Essential SET

- 523 LEGO bricks (including replacement elements)
- 2 printed building instructions booklets
- Sturdy storage box with color-coded sorting trays

UNIT PLANS

- *Train to Win* (lower primary)
- *Winning with Science* (upper primary)

ONLINE SUPPORT

- "Getting Started" material
- Lesson plans
- Assessment tools
- Online self-guided professional development

ADD-ONS

- Facilitated training & professional development

What is LEGO® Education BricQ Motion Prime?

LEGO® Education BricQ Motion Prime SET

- 562 LEGO bricks (including replacement elements)
- 1 printed building instructions booklet
- Sturdy storage box with color-coded sorting trays

UNIT PLANS

- *Science of Sports* (secondary school)

ONLINE SUPPORT

- "Getting Started" material
- Lesson plans
- Assessment tools
- Online self-guided professional development

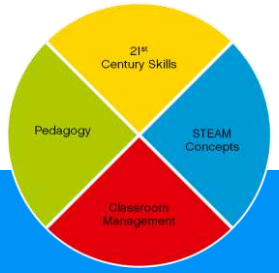
ADD-ONS

- Facilitated training & professional development

Solution Components

Curriculum Units

Bricks



Professional Development & Teacher Training

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Curriculum

UNIT PLANS

EXPLORE THE SCIENCE OF FORCES, MOTION, AND INTERACTIONS WITHIN A PLAYFUL SPORTS CONTEXT WHILE FOSTERING CREATIVITY AND DEVELOPING ENGINEERING AND MATH SKILLS.

Curriculum Unit Overview

Unit 1 Lower Primary

Grades K-2

Science, STEAM

Train to Win

Let's try new sports and meet sports heroes with cool moves too. Get ready to win!

Unit 2 Upper Primary

Grades 3-5

Science, STEAM

Winning With Science

Try track and field, ride a bobsled down an ice track, score some hoops, and be a race car winner. Be the best that you can be!

Unit 3 Secondary

Grades 6-8

Science, STEAM

Science Of Sports

Downhill pro skier, amazing gymnast, free kick marvel, or land speed genius... are you ready to be the next champion?

7-8 lessons of 45 min. each
(two 45-min. open-ended projects)

30+ min.
language arts & math extensions for each lesson

6-10 hours
of educational content

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Train to Win Unit

LOWER PRIMARY

LEARNING PROMISE

This unit will give your students an understanding of forces and motion as they plan and conduct investigations about the cause and effect of push and pull forces.

These seven lessons will introduce your students to the process of asking and answering questions, data analysis, and how to present their ideas. They'll work toward determining whether design solutions work as they were intended, to change the speed or direction of an object with a push or a pull.

Winning with Science Unit

UPPER PRIMARY

LEARNING PROMISE

This unit will develop your students' understanding of forces and motion as they engage in and conduct investigations about the effects of balanced and unbalanced forces. They'll investigate the patterns in an object's motion, developing and sharpening their ability to predict its future motion. Along the way, they'll develop their collaborative conversation skills as they effectively engage in a range of discussions.

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Science of Sports Unit

SECONDARY

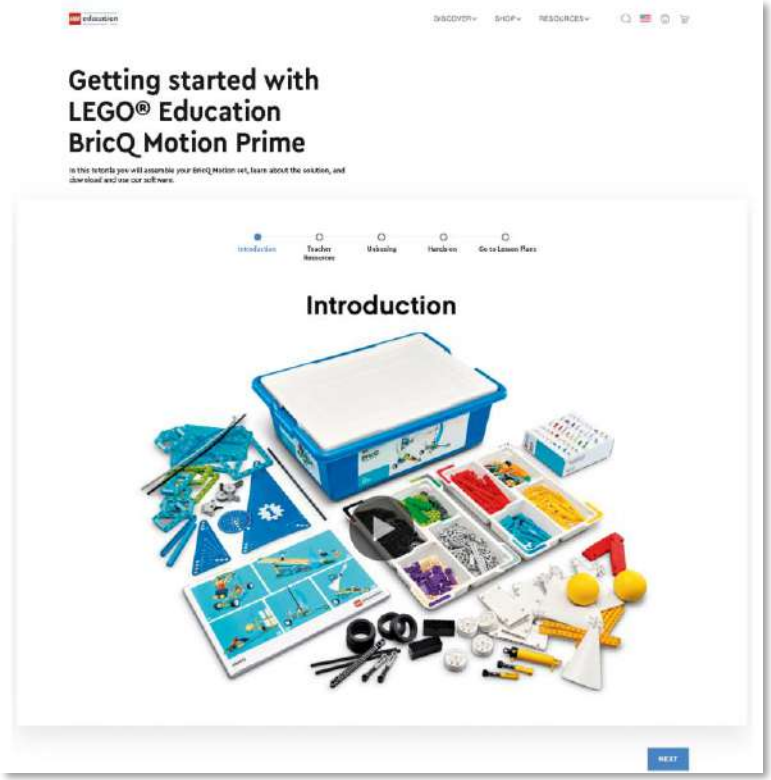
LEARNING PROMISE

In this unit, your students will apply their scientific inquiry skills as they provide evidence of the change in an object's motion based upon its force and mass.

Your students will practice applying Newton's laws of motion in order to design, develop, and optimize a solution that involves the collision of two objects. They'll strengthen their oral communication skills as they present and analyze solutions in collaborative discussions.

Easy "Getting Started" Support

LEGOeducation.com/start



A "Getting Started" introduction with a clear and simple flow.

- Introduction
- Teacher Resources
- Unboxing
- Hands-On
- Go to Lesson Plans

Quick access to teacher support sets you up for success!

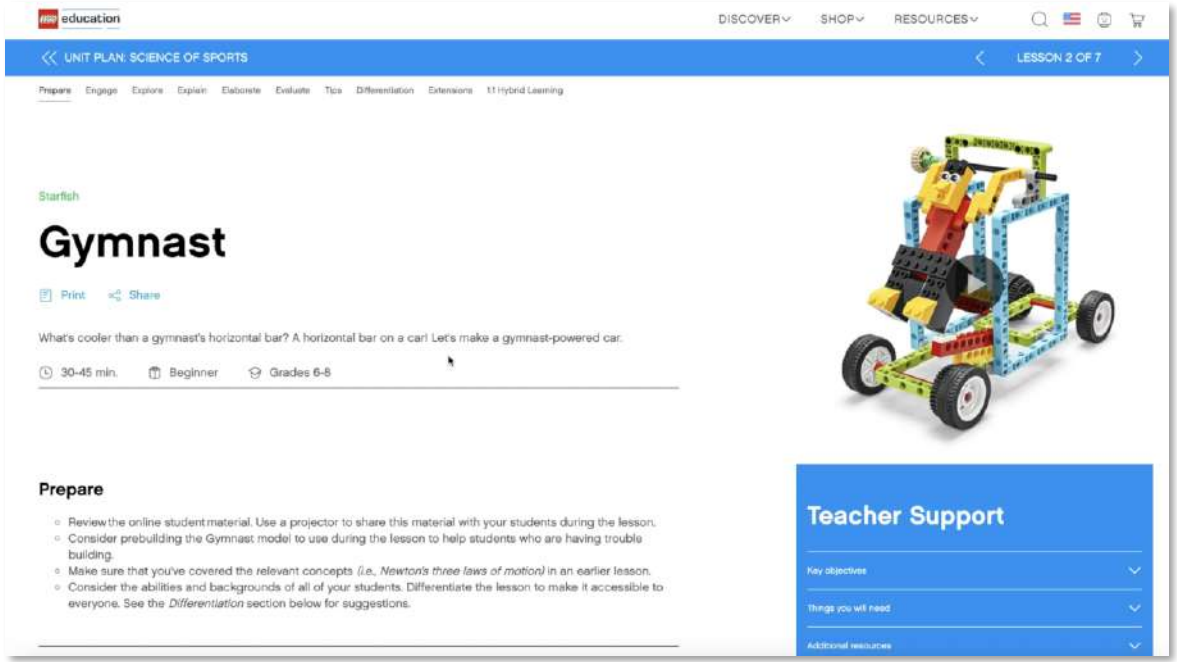
Every curriculum unit includes free content on LEGOeducation.com/lessons

Lesson Plans

- Teacher guide videos
- Student "engage" videos
- Student worksheets
- Projectable student directions
- Tips to simplify or extend lessons
- Language arts extension
- Math extension

Additional Resources

- Assessment rubrics
- Hybrid learning resources
- Building instructions



Bricks

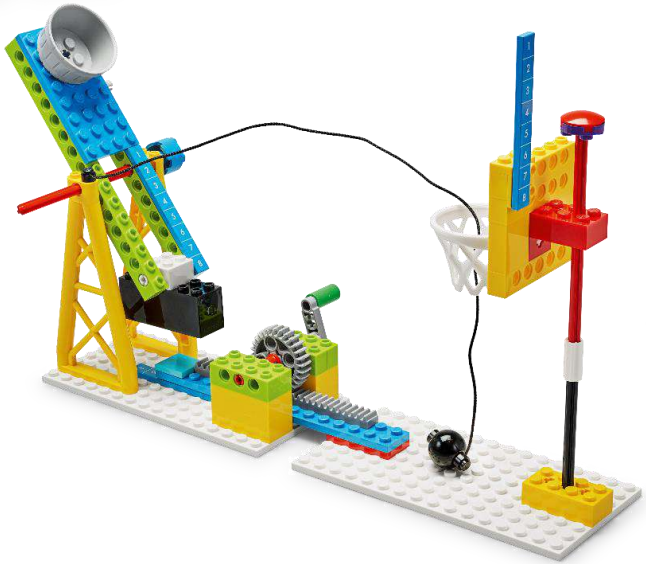
EXPERIENCE PHYSICAL SCIENCE IN ACTION THROUGH COOL CREATIONS WITH FAMILIAR LEGO® BRICKS AND FUNCTIONAL ELEMENTS.

Familiar LEGO® Bricks

including special functional elements

PRIMARY

- Gears
- Weighted bricks
- Springs
- Visible math
- Sports accessories



SECONDARY

- Technic gears
- Weighted bricks
- Springs
- Pneumatics
- Visible math

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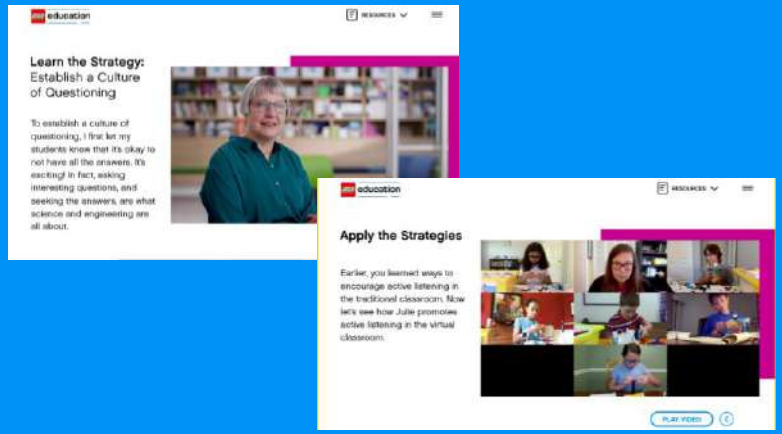
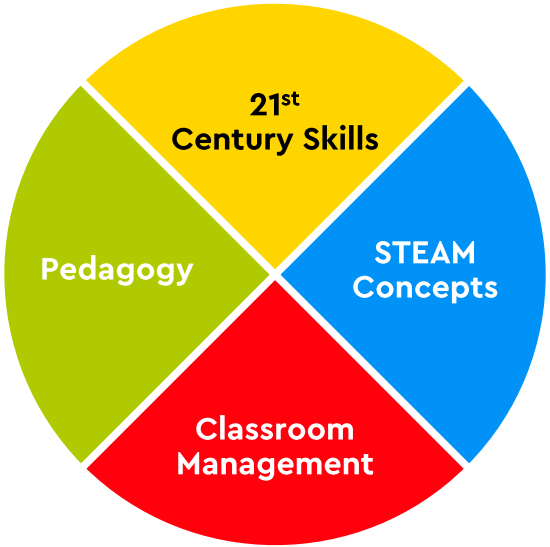
Professional Development

Professional Development

A personalized program that inspires teachers to learn, practice, and master the competencies necessary to facilitate hands-on, playful STEAM learning.





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Hybrid Learning with LEGO® Education

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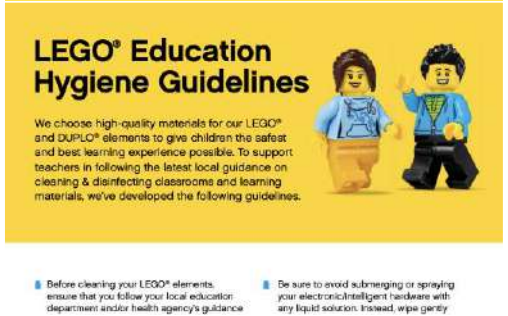
With LEGO® Education, playful and engaging STEAM learning can happen anywhere.

- Curriculum activities and student support across multiple learning environments
- Simple and flexible hybrid learning tools to continue strong learning outcomes outside of the classroom

Guidelines



Lessons

Professional Development

Hybrid Learning Packages

- Combine the classroom sets with the Personal Learning Kits to reinforce learning outcomes remotely
- Provide lesson extensions to deepen in-class learning after class
- Additional teaching resources and Student Worksheets linked directly to the classroom lessons to reinforce learning
- Personal Learning Kits designed for individual use
- Classroom sets can be shared by 2 students
- Appropriate packages are available based on usage across classrooms and grades

Thank you!

Date:July 2020