for Retail

for School

PRODUCT CATALOG

Since our foundation in 1960, Artec has been producing and distributing teaching materials and educational toys with this belief in mind: that fun is the first step in a lifelong love of learning.

The things we enjoy as children have a deep impact on our minds, how we grow up and the paths we choose later in life. The learning environment children grow up in today is evolving rapidly as the continued development of computer technology places STEAM-centric subjects like programming, robotics, IoT and AI at the forefront in nurturing 21st-century skills. In this era, we feel that the type of learning materials children can hold in their hands, experiment with, and experience for themselves are more important than ever.

At Artec, we aim to develop learning materials with an emphasis on interactivity, hoping to encourage the creativity children need to become the innovators and inventors of the future. Our goal is to provide the materials for enjoyable, deeply engaging learning experiences that will help today's children grow into adults who will enrich and improve the world they live in.

Etsu Fujiwara
President
Artec Co., Ltd.

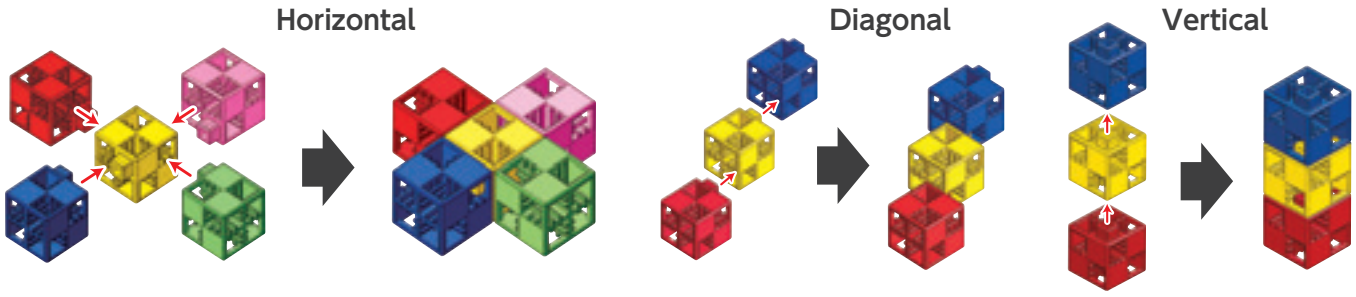
Contents

ARTEC PRODUCT CATALOG

Artec® Blocks

Artec blocks have won awards around the world, including the prestigious Creative Child Awards and Dr.Toy's Awards from America, the esteemed Taiwanese Golden Pin Design Awards and the Good Toy Awards from Japan.

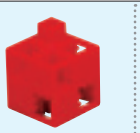
Bring your ideas to life, no matter what shape or size!



An assortment of 20 colors that will breathe life into your creations!

Basic Parts

(20 color variations for each)



Basic Cube
W 20 x H 20 x D 20 mm

Half A
W 20 x H 20 x D 10 mm

Half B
W 20 x H 20 x D 10 mm

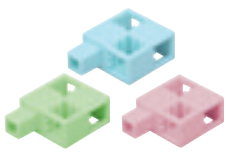
Triangle A
W 20 x H 20 x D 20 mm

Mini Cube
W 10 x H 10 x D 10 mm

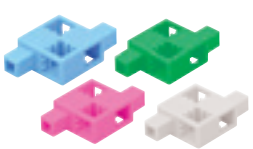
Supplementary Parts

Basic Cube Clear
W 20 x H 20 x D 20 mm

Triangle A Clear
W 20 x H 20 x D 20 mm



Half C
W 20 x H 20 x D 10 mm

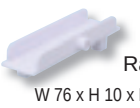


Half D
W 20 x H 20 x D 10 mm

Wheel
dia. 36 mm

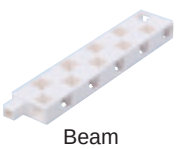
Disk
dia. 20 mm

Axle
W 20 x H 20 x D 6 mm

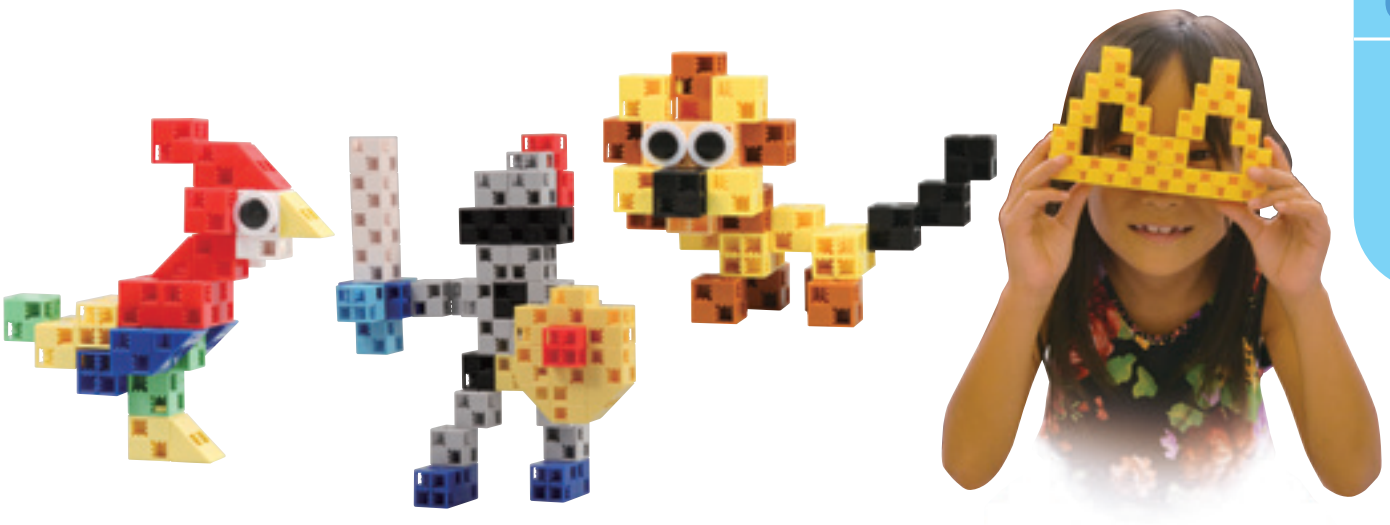


Rail A
W 76 x H 10 x D 20 mm

Rail B
W 20 x H 10 x D 20 mm



Beam
W 20 x H 100 x D 10 mm



Creative Child Awards | Dr. Toy's Awards | GOOD★TOY Awards

Creative Child Awards | Golden Pin Design Awards | GOOD★TOY Awards

AWARD WINNER!

#152202

Bucket 220 (vivid)

220 pcs

■ Package dimensions: W 216 x H 242 x D 213 mm (8.5 x 9.5 x 8.4") ■ Materials: ABS ■ Weight: 1,128 g

P.6 ➡

AWARD WINNER!

#152211

Game Creator Set

130 pcs

■ Package dimensions: W 364 x H 257 x D 60 mm (14.3 x 10.1 x 2.4") ■ Materials: ABS ■ Weight: 757 g

P.17 ➡

Creative Child Awards

AWARD WINNER!

#151776

SPACED JET BLACK

64 pcs

■ Package dimensions: W 81 x H 81 x D 81 mm (3.2 x 3.2 x 3.2") ■ Materials: ABS ■ Weight: 273 g

P.16 ➡

Creative Child Awards

This much-coveted industry prize was awarded to Artec by Creative Child Magazine, a popular American childcare publication. Each eligible product is reviewed by a team of parents, educators, and consumers.

Dr. Toy's Best Picks Awards

Stevanne Auerbach, also known as Dr. Toy, gives this prestigious award to toys which she judges to have extraordinary educational value. The Dr. Toy award is used worldwide as a benchmark for discerning parents, educators, and consumers.

Golden Pin Design Awards

The Golden Pin Design Award is one of the most esteemed in Taiwan, granted by a panel of members of the Taiwanese government's own Industrial Design Bureau and recognized by the Taiwan Design Center.

Good Toy Awards

Started as an NPO in 1985, the Good Toy committee aims to select the finest toys on the market. Their commitment to impartiality as well as their selection criteria have helped to maintain consumer faith since the committee was founded.

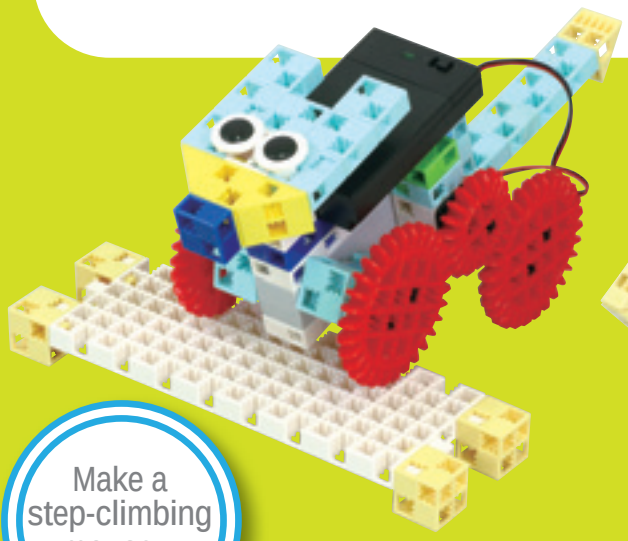
Artec Robo Junior

Animals on the Go

#091650

Animals on the Go

■ Package dimensions:
W 350 x H 58 x D 230 mm (13.8 x 2.3 x 9.1")
■ Materials: ABS
■ Weight: 1,080 g



Make a step-climbing mouse...

A winged pegasus...

Or a waddling duck!

A hardworking monkey...

Build four amazing animals!

Artec® PAT.P

Add some extra charm to your desk by building your own pen holders, phone stands, and more!

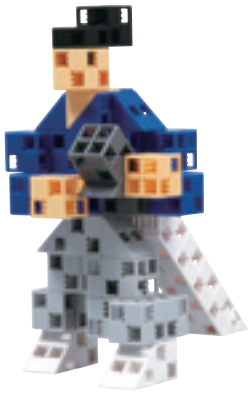
Old Kyoto & Office Friends

Build desk accessories as useful as they are customizable!

#196521

Old Kyoto Samurai

■ Package dimensions:
W 80 x H 80 x D 80 mm (3.1 x 3.1 x 3.1")
■ Materials: ABS
■ Weight: 212 g

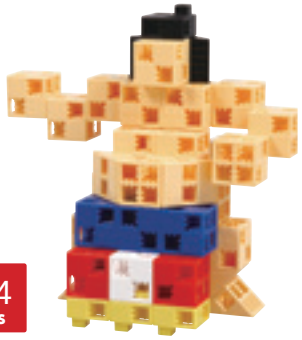


44 pcs

#196522

Old Kyoto Sumo

■ Package dimensions:
W 80 x H 80 x D 80 mm (3.1 x 3.1 x 3.1")
■ Materials: ABS
■ Weight: 207 g



44 pcs

#196523

Old Kyoto Maiko

■ Package dimensions:
W 80 x H 80 x D 80 mm (3.1 x 3.1 x 3.1")
■ Materials: ABS
■ Weight: 218 g

44 pcs

#196524

Old Kyoto Ninja

■ Package dimensions:
W 80 x H 80 x D 80 mm (3.1 x 3.1 x 3.1")
■ Materials: ABS
■ Weight: 205 g

44 pcs

#196518

Office Friends Marine

■ Package dimensions:
W 150 x H 200 x D 30 mm (5.9 x 7.9 x 1.2")
■ Materials: ABS
■ Weight: 212 g

45 pcs

#196519

Office Friends Honey & Bear

■ Package dimensions:
W 150 x H 200 x D 30 mm (5.9 x 7.9 x 1.2")
■ Materials: ABS
■ Weight: 221 g

48 pcs

#196520

Office Friends Ribbon Cat

■ Package dimensions:
W 150 x H 200 x D 30 mm (5.9 x 7.9 x 1.2")
■ Materials: ABS
■ Weight: 194 g

45 pcs

#152208

Pouch 54 (vivid)

■ Package dimensions:
W 150 x H 150 x D 50 mm
(5.9 x 5.9 x 2")
■ Materials: ABS
■ Weight: 232 g

Poster Included

54 pcs

#152209

Pouch 54 (neutral colors)

■ Package dimensions:
W 150 x H 150 x D 50 mm
(5.9 x 5.9 x 2")
■ Materials: ABS
■ Weight: 232 g

Poster Included

54 pcs

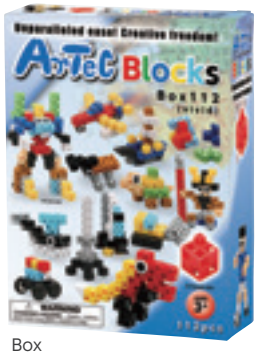
#152210

Pouch 54 (pastel)

■ Package dimensions:
W 150 x H 150 x D 50 mm
(5.9 x 5.9 x 2")
■ Materials: ABS
■ Weight: 232 g

Poster Included

54 pcs



Box

Bucket

#152206

Box 112 (vivid)

■ Package dimensions:
W 165 x H 225 x D 60 mm
(6.5 x 8.9 x 2.4")
■ Materials: ABS ■ Weight: 509 g

Poster Included

112 pcs

#152204

Bucket 112 (vivid)

■ Package dimensions:
W 186 x H 172 x D 183 mm
(7.3 x 6.8 x 7.2")
■ Materials: ABS ■ Weight: 611 g

Poster Included

112 pcs

Box

Bucket

#152207

Box 112 (pastel)

■ Package dimensions:
W 165 x H 225 x D 60 mm
(6.5 x 8.9 x 2.4")
■ Materials: ABS ■ Weight: 509 g

Poster Included

112 pcs

#152205

Bucket 112 (pastel)

■ Package dimensions:
W 186 x H 172 x D 183 mm
(7.3 x 6.8 x 7.2")
■ Materials: ABS ■ Weight: 611 g

Poster Included

112 pcs

Creative Child Awards

Dr. Toy's Awards

GOOD★TOY Awards

Vivid

Pastel

AWARD WINNER!

#152202

Bucket 220 (vivid)

■ Package dimensions:
W 216 x H 242 x D 213 mm
(8.5 x 9.5 x 8.4")
■ Materials: ABS ■ Weight: 1,128 g

Poster Included

220 pcs

#152203

Bucket 220 (pastel)

■ Package dimensions:
W 216 x H 242 x D 213 mm
(8.5 x 9.5 x 8.4")
■ Materials: ABS ■ Weight: 1,128 g

Poster Included

220 pcs

Vivid

#152213

BASIC 30 (vivid)

Poster Included

30 pcs

■ Package dimensions:
W 150 x H 257 x D 35 mm
(5.9 x 10.1 x 1.4")
■ Materials: ABS ■ Weight: 188 g

Pastel

#152214

BASIC 30 (pastel)

Poster Included

30 pcs

■ Package dimensions:
W 150 x H 257 x D 35 mm
(5.9 x 10.1 x 1.4")
■ Materials: ABS ■ Weight: 188 g

#152216

BASIC 50 (pastel)

Poster Included

50 pcs

■ Package dimensions:
W 200 x H 257 x D 35 mm (7.9 x 10.1 x 1.4")
■ Materials: ABS
■ Weight: 284 g

#152217

BASIC 100 (vivid)

Poster Included

100 pcs

■ Package dimensions:
W 300 x H 257 x D 50 mm (11.8 x 10.1 x 2")
■ Materials: ABS
■ Weight: 540 g

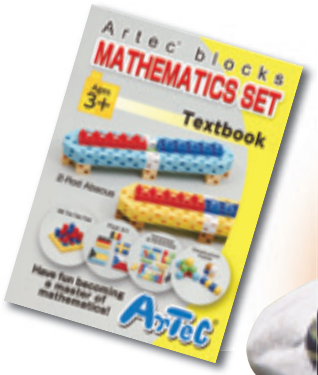
#152220

BASIC 200 (pastel)

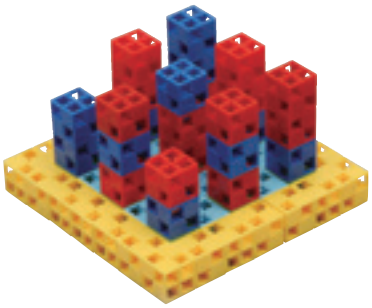
Poster Included

200 pcs

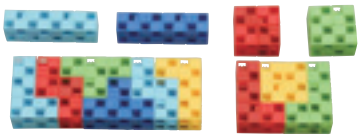
■ Package dimensions:
W 400 x H 257 x D 60 mm (15.7 x 10.1 x 2.4")
■ Materials: ABS
■ Weight: 986 g



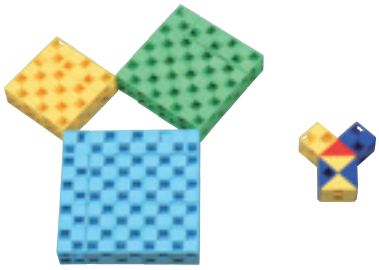
40 exercises
46 page Text book Included



3D Tic-Tac-Toe



Tetrominoes & Pentominoes



Pythagorean Theorem

#152212

Perfect Mathematics Set

- Package dimensions: W 216 x H 242 x D 213 mm (8.5 x 9.5 x 8.4")
- Materials: ABS
- Weight: 1,784 g

280 pcs

#152201

Dream Basic Set 578

Poster Included

- Package dimensions: W 385 x H 150 x D 260 mm (15.2 x 5.9 x 10.2")
- Materials: ABS
- Weight: 2,696 g

578 pcs

#152200

Dream DX Set 1154

Poster Included

- Package dimensions: W 530 x H 187 x D 358 mm (20.9 x 7.4 x 14.1")
- Materials: ABS
- Weight: 5,748 g

1154 pcs

#152340

Artec World Sea Friends

Instructions Included

■ Package dimensions: W 125 x H 155 + 30 x D 35 mm (4.9 x 6.1 + 1.2 x 1.4") ■ Materials: ABS ■ Weight: 157 g

30 pcs

#152341

Artec World Flower Fields

Instructions Included

■ Package dimensions: W 125 x H 155 + 30 x D 35 mm (4.9 x 6.1 + 1.2 x 1.4") ■ Materials: ABS ■ Weight: 164 g

30 pcs

#152342

Artec World Royal Princess

Instructions Included

■ Package dimensions: W 125 x H 155 + 30 x D 35 mm (4.9 x 6.1 + 1.2 x 1.4") ■ Materials: ABS ■ Weight: 155 g

30 pcs

#152343

Artec World Construction Zone

Instructions Included

■ Package dimensions: W 125 x H 155 + 30 x D 35 mm (4.9 x 6.1 + 1.2 x 1.4") ■ Materials: ABS ■ Weight: 155 g

30 pcs

#152344

Artec World Emergency Vehicles

Instructions Included

30 pcs

■ Package dimensions: W 125 x H 155 + 30 x D 35 mm (4.9 x 6.1 + 1.2 x 1.4") ■ Materials: ABS ■ Weight: 141 g

#152345

Artec World Fun at the Farm

Instructions Included

30 pcs

■ Package dimensions: W 125 x H 155 + 30 x D 35 mm (4.9 x 6.1 + 1.2 x 1.4") ■ Materials: ABS ■ Weight: 151 g

#152346

Artec World Dino Adventure

Instructions Included

30 pcs

■ Package dimensions: W 125 x H 155 + 30 x D 35 mm (4.9 x 6.1 + 1.2 x 1.4") ■ Materials: ABS ■ Weight: 149 g

#152347

Artec World Bug World

Instructions Included

30 pcs

■ Package dimensions: W 125 x H 155 + 30 x D 35 mm (4.9 x 6.1 + 1.2 x 1.4") ■ Materials: ABS ■ Weight: 145 g

#152348

Artec World Flock of Fun

Instructions Included

■ Package dimensions: W 125 x H 155 + 30 x D 35 mm (4.9 x 6.1 + 1.2 x 1.4") ■ Materials: ABS ■ Weight: 158 g

30 pcs

#152349

Artec World Beach Buddies

Instructions Included

■ Package dimensions: W 125 x H 155 + 30 x D 35 mm (4.9 x 6.1 + 1.2 x 1.4") ■ Materials: ABS ■ Weight: 141 g

30 pcs

#152350

Artec World Reptile Park

Instructions Included

■ Package dimensions: W 125 x H 155 + 30 x D 35 mm (4.9 x 6.1 + 1.2 x 1.4") ■ Materials: ABS ■ Weight: 148 g

30 pcs

#152351

Artec World Safari Kingdom

Instructions Included

■ Package dimensions: W 125 x H 155 + 30 x D 35 mm (4.9 x 6.1 + 1.2 x 1.4") ■ Materials: ABS ■ Weight: 150 g

30 pcs

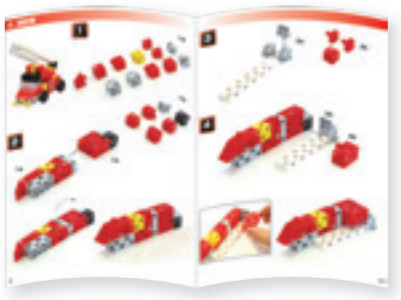
#152221

RED FIGHTERS

■ Package dimensions:
W 364 x H 257 x D 60 mm (14.3 x 10.1 x 2.4")
■ Materials: ABS ■ Weight: 509 g

10 IN 1
42 page Manual included

100 pcs



10 models in one high-quality set!

#152222
BLUE RACERS

■ Package dimensions:
W 364 x H 257 x D 60 mm (14.3 x 10.1 x 2.4")
■ Materials: ABS ■ Weight: 509 g

10 IN 1 42 page Manual included
100 pcs

#152223
YELLOW POWERS

■ Package dimensions:
W 364 x H 257 x D 60 mm (14.3 x 10.1 x 2.4")
■ Materials: ABS ■ Weight: 509 g

10 IN 1 42 page Manual included
100 pcs

#152224
WHITE GUARDIANS

■ Package dimensions:
W 364 x H 257 x D 60 mm (14.3 x 10.1 x 2.4")
■ Materials: ABS ■ Weight: 509 g

10 IN 1 42 page Manual included
100 pcs

#152225
GREEN BOMBERS

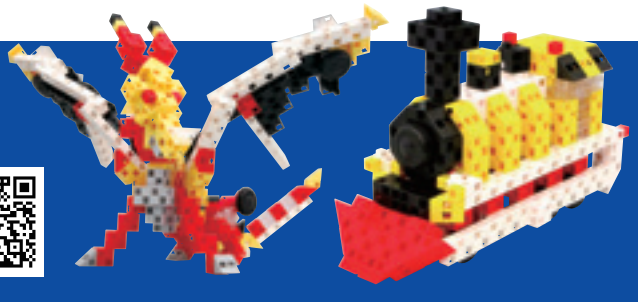
■ Package dimensions:
W 364 x H 257 x D 60 mm (14.3 x 10.1 x 2.4")
■ Materials: ABS ■ Weight: 509 g

10 IN 1 42 page Manual included
100 pcs

Combine with other sets for even more fun!

Download the instructions here!

http://www.artec-kk.co.jp/en/10in1/



#197861

DINO BUILDER T. REX

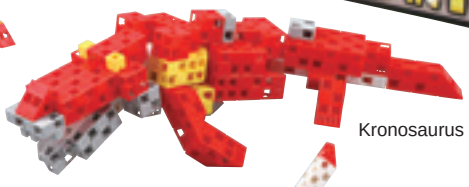
■ Package dimensions:
W 364 x H 257 x D 60 mm (14.3 x 10.1 x 2.4")
■ Materials: ABS ■ Weight: 445 g

5 IN 1 — 22 page Manual included

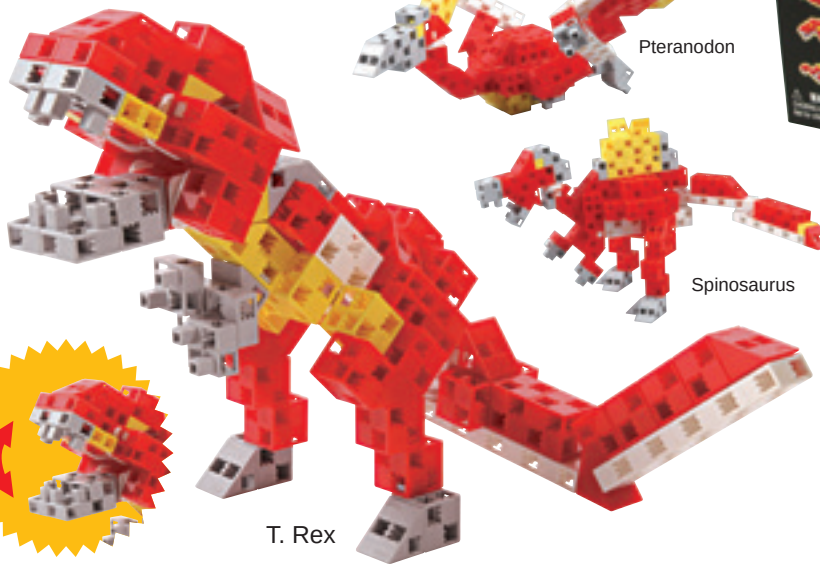
100 pcs

Pteranodon

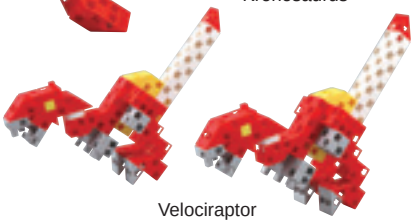
Spinosaurus



Kronosaurus



T. Rex



Velociraptor

#197862

DINO BUILDER TRICERATOPS

■ Package dimensions:
W 364 x H 257 x D 60 mm (14.3 x 10.1 x 2.4")
■ Materials: ABS ■ Weight: 446 g

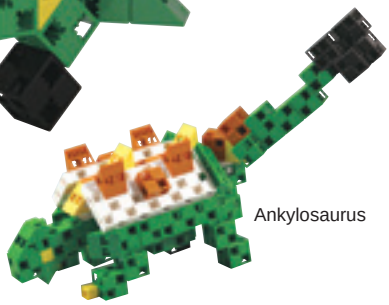
5 IN 1 — 22 page Manual included

100 pcs

Brachiosaurus

Triceratops

Stegosaurus



Ankylosaurus

Parasaurolophus

#095084

BlockRobo Links Basic

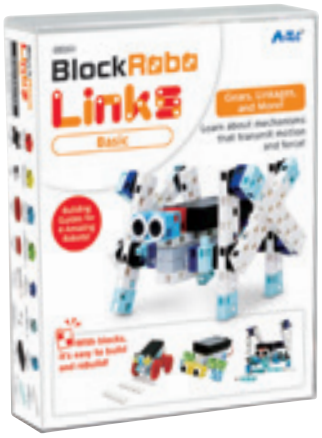
NEW

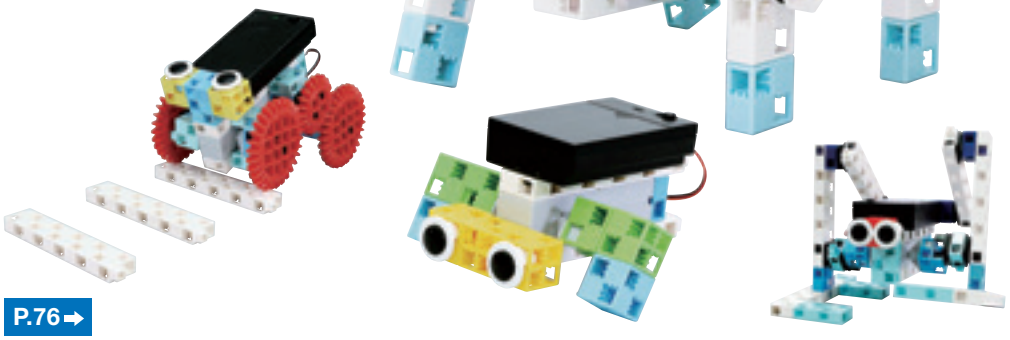
4 IN 1
44 page Manual included

85 pcs

■ Package dimensions:
W 175 x H 225 x D 45 mm (6.9 x 8.9 x 1.8")
■ Materials: ABS, FR-4 ■ Weight: 422 g

Use gears and linkages to transmit force and motion!





P.76➡

#095086

BlockRobo Links Advanced

NEW

5 IN 1
72 page Manual included

157 pcs

■ Package dimensions:
W 175 x H 225 x D 90 mm (6.9 x 8.9 x 3.5")
■ Materials: ABS, FR-4 ■ Weight: 814 g

Use even more gears, blocks, and other parts to create complex mechanisms!

P.76➡

TOWN SQUARE

Playmat & Stickers Included

Build a town by connecting the police station, fire station, and hospital.

70 pcs

#151730

Town Square Police Station

■ Package dimensions: W 190 x H 190 x D 60 mm (7.5 x 7.5 x 2.4") ■ Materials: ABS ■ Weight: 400 g

70 pcs

#151731

Town Square Fire Station

■ Package dimensions: W 190 x H 190 x D 60 mm (7.5 x 7.5 x 2.4") ■ Materials: ABS ■ Weight: 410 g

70 pcs

#151732

Town Square Hospital

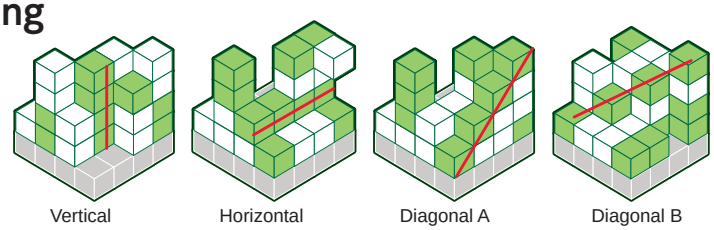
■ Package dimensions: W 190 x H 190 x D 60 mm (7.5 x 7.5 x 2.4") ■ Materials: ABS ■ Weight: 400 g

4 x 4 x ∞ infinity SPACED

A heart-pounding four-in-a-row 3D game!

AWARD WINNER!

CREATIVE CHILD MAGAZINE CREATIVE CHILD AWARDS 2014 Puzzle of the Year Award CREATIVECHILD.COM



#151776

SPACED JET BLACK

#151777

SPACED LIME GREEN

#151778

SPACED ROSE PINK

For 2 players

■ Package dimensions: W 81 x H 81 x D 81 mm (3.2 x 3.2 x 3.2") ■ Materials: ABS ■ Weight: 273 g

64 pcs

Visit our website to find out more about SPACED!
http://www.artec-kk.co.jp/en/spaced/

#152211

Game Creator Set

■ Package dimensions:
W 364 x H 257 x D 60 mm
(14.3 x 10.1 x 2.4")
■ Materials: ABS ■ Weight: 757 g

130 pcs

20 SAMPLE GAMES
46 page Manual included

Balancing Birds

Racecar Scramble

Sliding Animal Antics

Block Builders

P.03 ➡

#151820

Play & Build

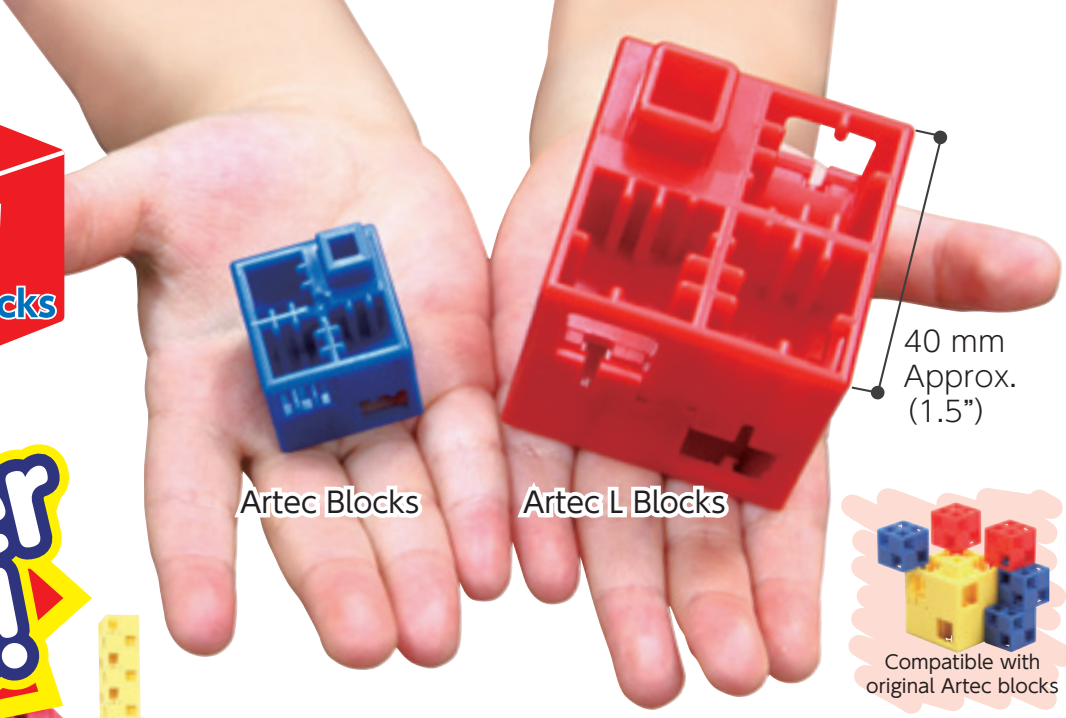
■ Package dimensions:
W 235 x H 175 x D 70 mm (9.3 x 6.9 x 2.8")
■ Materials: ABS ■ Weight: 367 g

53 pcs

Fancy block board game!

Roll the die and move the game piece.
Be the first player to build the item on your card!

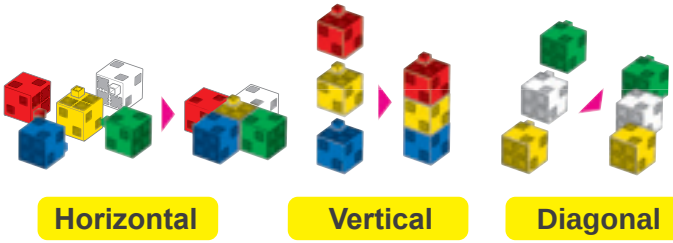
Artec® L Blocks

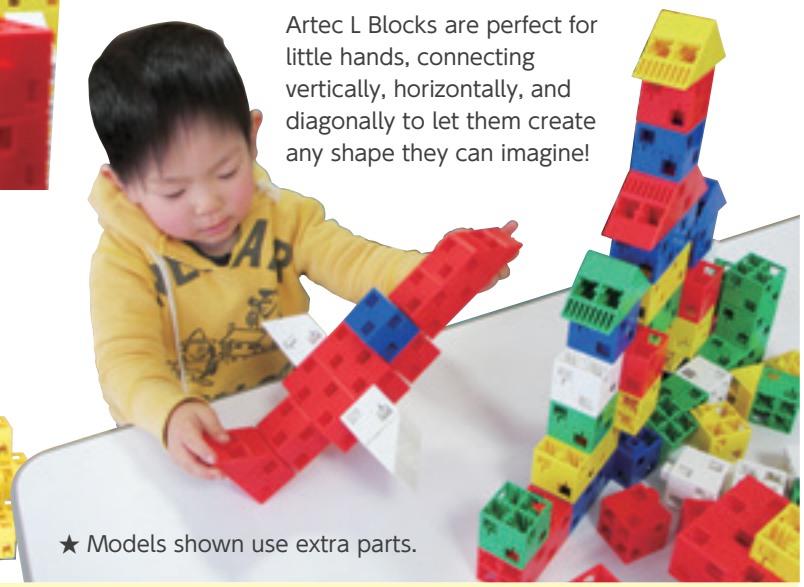


Larger size!

Compatible with original Artec blocks

First in the industry





Artec L Blocks are perfect for little hands, connecting vertically, horizontally, and diagonally to let them create any shape they can imagine!

★ Models shown use extra parts.

Bring out the unlimited imagination in a child

1.5 yrs. and up Grab Touch

Giving children the opportunity to touch a variety of shapes and surfaces helps stimulate and sharpen their senses!

2 yrs. and up Place Connect

Building, rebuilding, and the instant satisfaction of playing with something that they made themselves keeps a child engaged, moving, and having fun!

3 yrs. and up Create

Blocks are one of the best ways to let children express their developing minds. Whether giving them something to build or allowing them to invent their own games, an extra dose of encouragement can be a huge creative boost!

#151830

Artec L Blocks Primary 30

AWARD WINNER!

2014 CREATIVE CHILD AWARDS — CREATIVE of the Year Play Award

30 pcs

■ Package dimensions: W 280 x H 280 x D 100 mm (11 x 11 x 3.9") ■ Materials: ABS ■ Weight: 877 g

#151770

Artec L Blocks Primary 60

60 pcs

■ Package dimensions: W 390 x H 280 x D 120 mm (15.4 x 11 x 4.7") ■ Materials: ABS ■ Weight: 1,666 g

#151836

Artec L Blocks Primary Class Set 120

120 pcs

Poster Included

■ Package dimensions: W 530 x H 187 x D 358 mm (20.9 x 7.4 x 14.1")
■ Materials: ABS ■ Weight: 4,400 g

P.74 ➡

#151811

Artec L Blocks Mathematics Set

25 exercises

120 pcs

Instructions Included

■ Package dimensions: W 530 x H 187 x D 358 mm (20.9 x 7.4 x 14.1")
■ Materials: ABS ■ Weight: 4,400 g

P.74 ➡

Artec® Robo 2.0

A new versatile and easy-to-use platform for building everything from simple robots to network systems!

Built-in Bluetooth & Wi-Fi

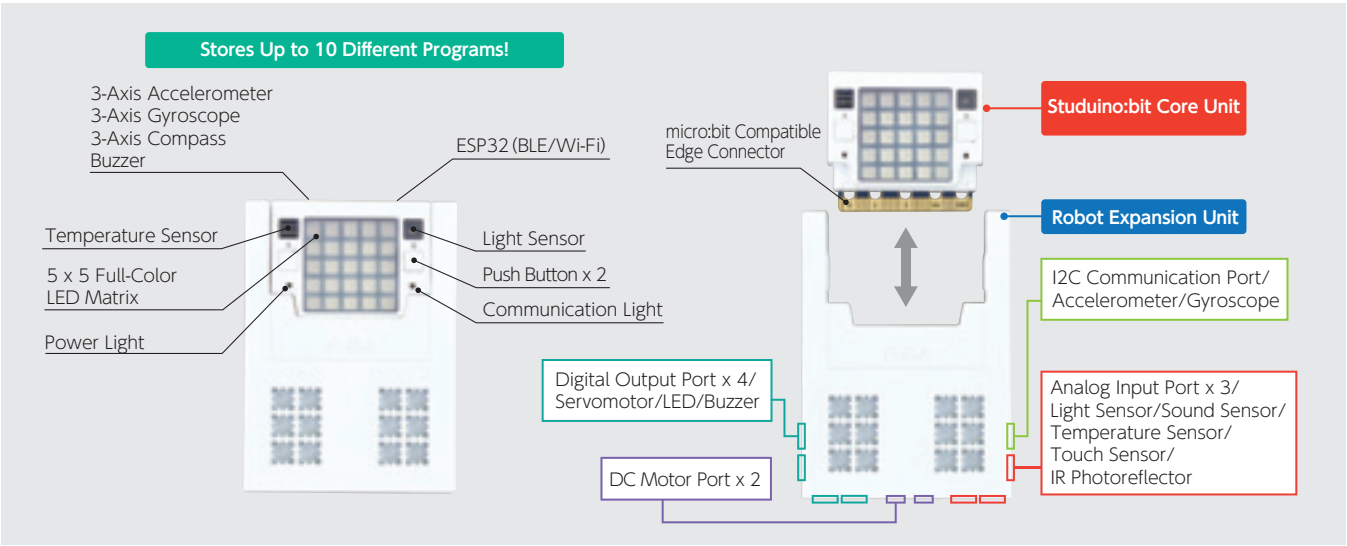
Multiple OS Support
Windows/Mac
Android/iOS/ChromeOS

No USB Device Drivers Required

★ Compatible with default drivers on Windows 10 and Mac OS. Additional driver installation will be necessary on Windows 7/8.1.

Take a Look at the Artec Robo 2.0 Hardware!

Now with seven different sensors, 25 full-color LEDs, a buzzer, and Bluetooth/ Wi-Fi support all built in!



Studuino:bit Core Unit

Size	W 60 x H 60 x D 25 mm (in case)
USB Connector	microB
Wi-Fi	802.11b/g/n
Bluetooth	Classic, BLE4.2 (dual mode)
SoC	ESP32
Flash Memory	8 MB
SRAM	520 KB
PSRAM	8 MB
Clock Speed	240 MHz
Operating Voltage	3.3 V
Communication Protocol	Windows/Mac Equipped with USB Serial Converter IC ★ Device drivers support Windows 10 or later, and Mac. iPad/Android Tablets/Chromebook BLE communications
Parts	5 x 5 full-color LED matrix, buzzer, 2 x push buttons, light sensor, temperature sensor, 3-axis accelerometer, 3-axis gyroscope, 3-axis compass
Power Supply	USB, 3 x AA/R6 batteries (Use only alkaline batteries.)

Robot Expansion Unit

Size	W 80 x H 110 x D 25 mm (in case)	
Compatible Parts	Servomotor, LED, Buzzer	Max. 4 parts
	Light Sensor, IR Photoreflector, Sound Sensor, Touch Sensor, Temperature Sensor	Max. 3 parts
	Accelerometer/Gyroscope	1 part
Power Supply	USB, 3 x AA/R6 batteries (Use only alkaline batteries.)	

System Requirements

● Software Compatibility
Windows (7/8.1/10/11)/Mac OS X 10.6 or later/iOS11 or later/Android5.0 or later/Chrome OS/Raspberry Pi OS

● System Requirements
Windows: CPU: Core2 Duo (E6700) or higher (or equivalent)
Memory: 2GB or more, USB 2.0 port
・Mac: Minimum required by OS.
・iOS: iPad with minimum required by OS. (Not supported on iPhone or iPadmini)
・Android: Minimum required by initial installation of the OS, screen size of 10 in. or more. (*Not guaranteed to work with all Android devices.)
・Chromebook: Model released 2016 or later, support for Android applications and Bluetooth 4.0.

Start Programming Right Away, No Assembly Required!

The Studuino:bit Core Unit comes with built-in sensors, full-color LEDs, and a buzzer, all ready to program without any need to spend precious class time on settings or assembly!
You can also add blocks and extra parts to build robots!


Build a model traffic light with just the Core Unit's LED display, buzzer, and sensors!

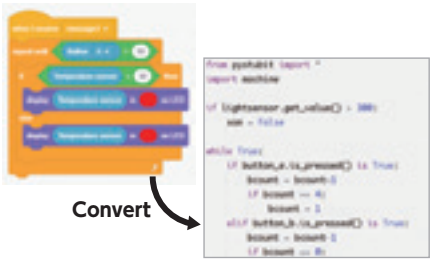

Add blocks and robot parts to make more robots!

Visual Programming Software Based on Scratch 3.0

Bluetooth communications allow you to program with iOS, Android, and Chrome OS in addition to Windows and Mac!

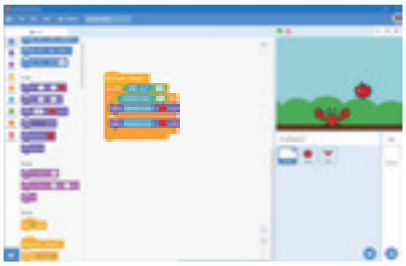
★ Bluetooth not supported on the Windows and Mac versions of the software.
★ A customized version of MIT MediaLab's own Scratch crafted specifically for ArtecRobo 2.0. With a wealth of blocks representing actual programming syntax, using this programming environment is the next best thing to actually working in C.

Convert to Python



The programs you make can be converted into Python programming language!

Access Digital Content



Make robots and systems that use digital contents and hardware together, like a robot that moves along with on-screen animations and sound, or game characters that move in response to a sensor's readings.

Tutorials Included

Learn all the basics you need to start programming your robots through the on-screen software tutorial!

★ Software is subject to change at any time.

Wi-Fi Compatibility Allows All-New Experiments!

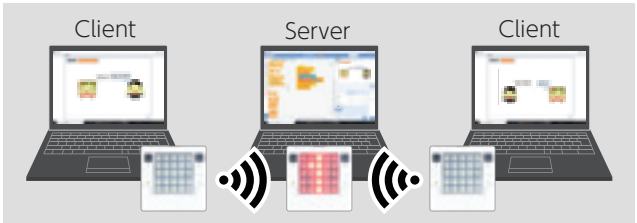
Now you can construct network systems using Wi-Fi communications between devices!

Interconnecting Devices


ArtecRobo 2.0 lets you build complex systems that use multiple devices at once by connecting them with wireless communications. Don't stop at making one traffic signal, make a whole network of coordinated signals and cars that stop for red lights automatically!

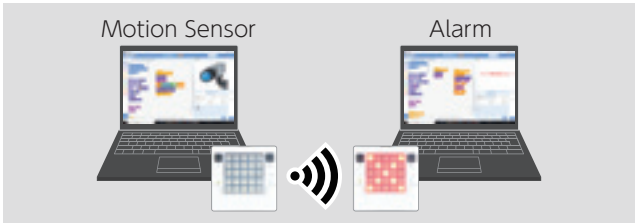
Building a Multi-Device System

Chat Systems



Learn About
Using inter-device communications to make programs that can send messages and connect multiple computers.

Security Systems



Learn About
Using messaging systems to make an alarm sound when your sensors detect an intruder, and learn about the Internet of Things!

ArtecRobo 2.0

#095023

ArtecRobo 2.0 Mecha Builder

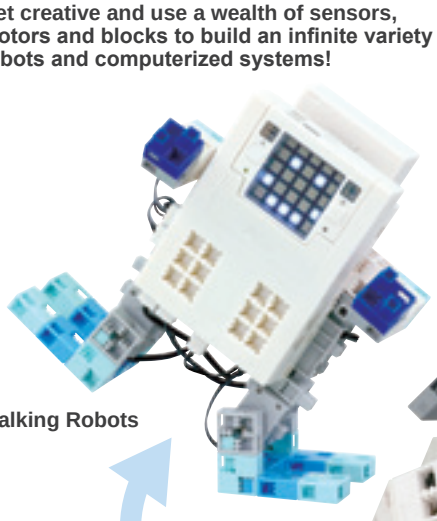
- Dimensions: W 340 x H 215 x D 140 mm (13.4 x 8.5 x 5.5")
- Materials: ABS, FR-4
- Weight: 1,480 g

Requires battery (1.5V AA/LR6) x3
(sold separately)

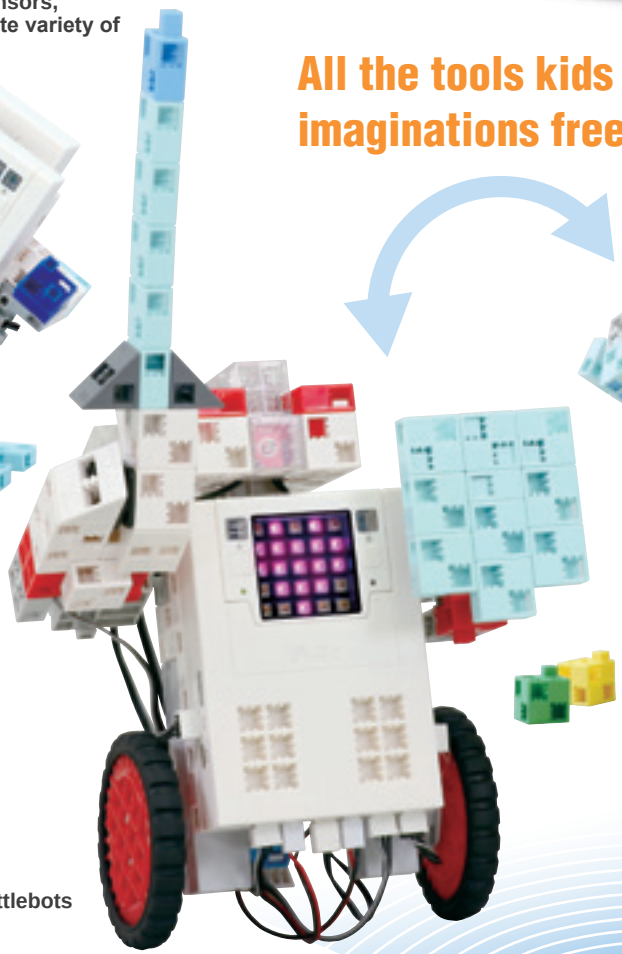
Features

Get creative and use a wealth of sensors, motors and blocks to build an infinite variety of robots and computerized systems!

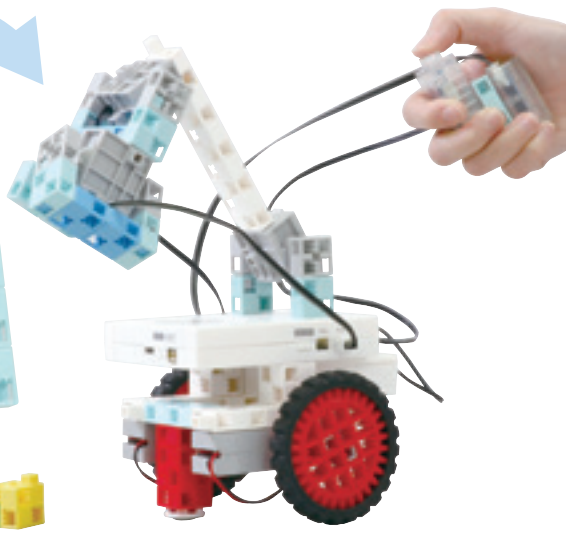
All the tools kids need to give their imaginations free reign!



Walking Robots



Battlebots



Cranes

#095032

ArtecRobo 2.0 Game Maker

■ Dimensions: W 340 x H 215 x D 140 mm (13.4 x 8.5 x 5.5")
■ Materials: ABS, FR-4
■ Weight: 1,440 g

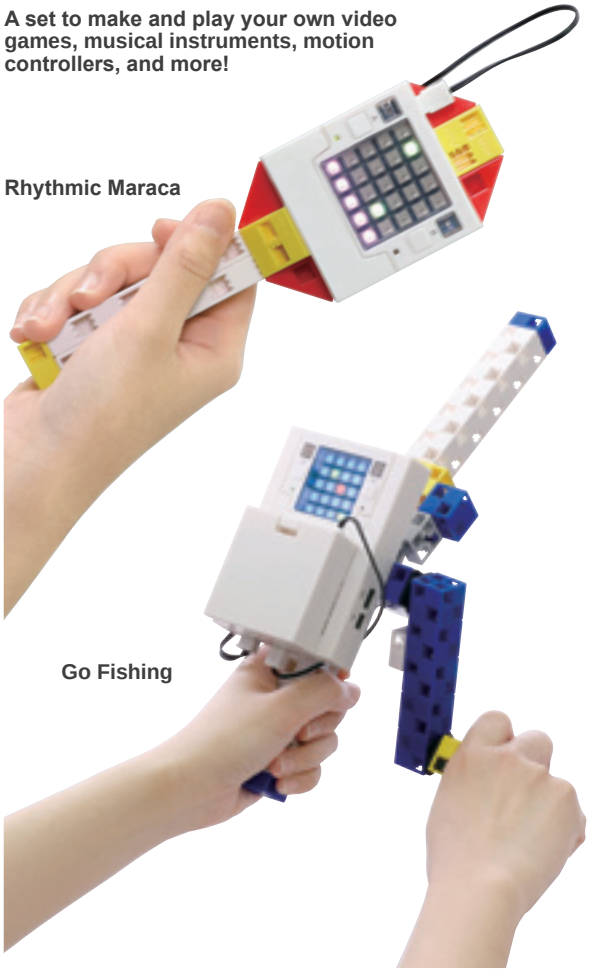
Requires battery (1.5V AA/LR6) ×3
(sold separately)

Features

A set to make and play your own video games, musical instruments, motion controllers, and more!

A new generation of creative, smart toys!

An endless amount of fun in one box!



Rhythmic Maracas

Go Fishing

Driving Game

Rifle Game

ArtecRobo

The freedom to build the robot you want, for creators of all ages!

Artec Blocks

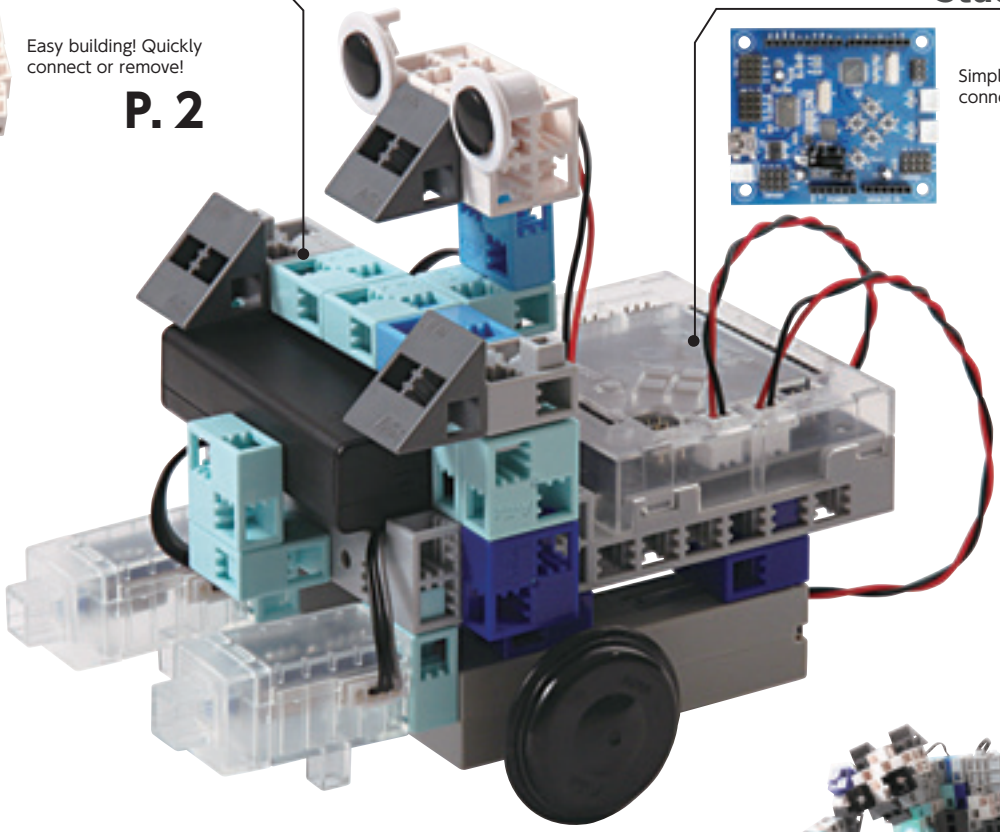
Easy building! Quickly connect or remove!

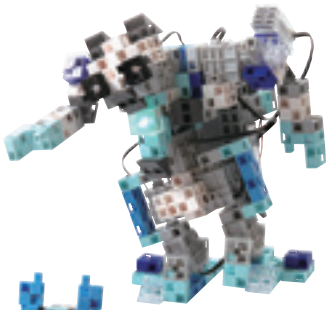
P. 2

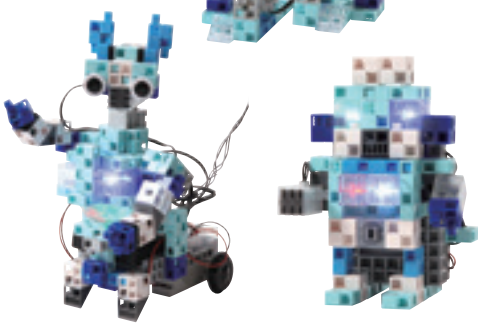
Studuino

Simple wiring! Just connect cables!

P. 25







Unlimited robot building capabilities!

Just connect and go!
Build it and make it move just as you've imagined!

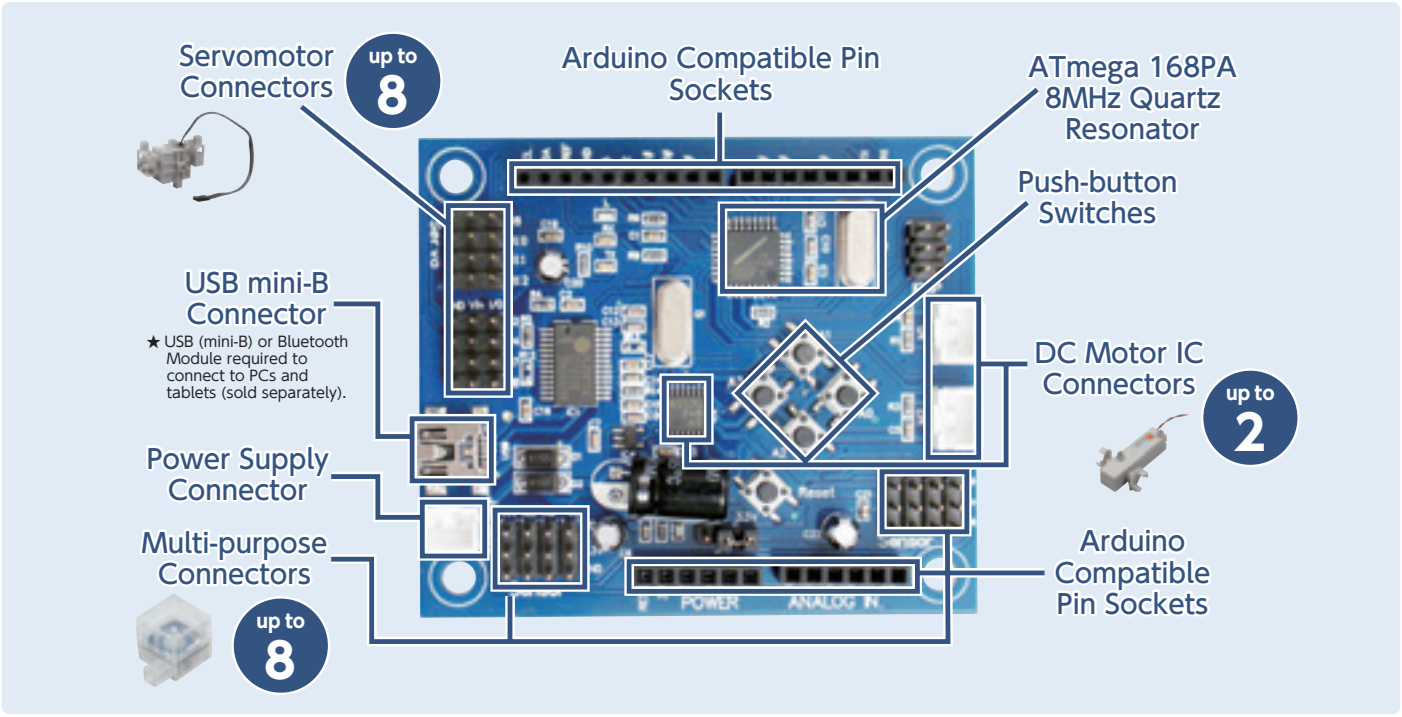
ArtecRobo combines the creative freedom of Artec Blocks with the simple, drag-and-drop programmability of Studuino. Connect your blocks vertically, horizontally, and diagonally while programming light, sound, and movements to make an endless array of unique robots.

ROBOT ⚙ TECHNOLOGY #151610

Studuino®

An Arduino-based board designed for programming education.

Studuino uses Artec Blocks™ in combination with plug-and-play parts as well as free, easy-to-use software to make it easy to build and program anything you like.



Designed for Robots

Onboard ports for Servomotors, DC Motors, LEDs, Buzzers, and sensors allow you to build advanced robots without the need for breadboards and complex wiring.

Arduino Compatible

More advanced programmers can easily convert their programs into Arduino, an approachable, easy-to-understand programming language based on C.

MCU	ATmega168PA
Digital I/O Pins	14 DC Motor Drivers: D2, D3, D4, D5, D7, D8, Servomotor Drivers: D2, D4, D7, D8, D9, D10, D11, D12
Analog Input Pins	8 Push-button Switches: A0, A1, A2, A3 Sensors: A0, A1, A2, A3, A4, A5, A6, and A7
Clock Speed	8 MHz
Operating Voltage	3.3 V
DC Motor Driver IC	TB6552FNG (max. 1 A)
USB Serial IC	PL2303TA
Push-button Switches	A0, A1, A2, A3

Supports
Windows / Mac OS X / iOS / iPadOS
Chrome OS / Android / Raspberry Pi OS

★ Visit the official Studuino website for more details on compatibility.
https://www.artec-kk.co.jp/studuino/en/

■ Dimensions: Studuino main body 70 x 60 x 10 mm
■ Packaging: Cardboard box
★ USB (mini-B) or Bluetooth connection required.
★ Products and information are subject to change.

ROBOT ✿ TECHNOLOGY
Studuino®

Program at Any Level

Studuino offers a range of programming environments suited to any skill level, allowing you to start your programming journey the right way.

Level 1

Icon Programming

Made especially for young learners, the Studuino Icon Programming Environment all uses colorful, easy-to-understand icons to get kids thinking sequentially as they make real programs.

Level 2

Block Programming

Based on MIT Media Lab's Scratch 3.0 programming environment, the Block Programming Environment uses real programming syntax to teach concepts like variables, lists, and operators.

Level 3

Real Code

Convert icon and block programs and program in Arduino IDE using Arduino, an easy-to-understand programming language based on C and used by real software engineers around the world.

★ Tablets only support the Scratch 3.0 Block Programming Environment.

Find out more at:
https://www.artec-kk.co.jp/studuino/en/

ArTeC® Robo

In partnership with

instars

Winstars Enterprise HK Limited

#196528

Coding Lifestyle
Grand Piano

■ Dimensions: W 375 x H 270 x D 70 mm (17.8 x 10.6 x 2.8")
■ Materials: ABS, FR-4 ■ Weight: 1,460 g

240+ Pieces | Studuino | Buzzer | Touch Sensor | Requires battery (1.5V AA/LR6) x3 (sold separately)

Features
- Program a working piano
- Use a Touch sensor and a Buzzer to play sound.

#196529

Coding Lifestyle
Crane Game

■ Dimensions: W 530 × H 187 × D 358 mm (20.9 × 7.4 × 14.1")
■ Materials: ABS, FR-4
■ Weight: 5,020 g

580+ Pieces | Studuino | Servomotor | DC Motor | Touch Sensor | Infrared Sensor | Requires battery (1.5V AA/LR6) x3 (sold separately)

Features
- Make your very own Crane Game
- Program your Servomotor and DC motor to move in response to your touch sensors

#196530

Coding Lifestyle
Vending Machine

■ Dimensions: W 530 × H 187 × D 358 mm (20.9 × 7.4 × 14.1")
■ Materials: ABS, FR-4
■ Weight: 4,960g

830+ Pieces | Studuino | Servomotor | Touch Sensor | Infrared Sensor | Requires battery (1.5V AA/LR6) x3 (sold separately)

Features
- Program your Touch sensor to control a Servomotor
- Make and program a working vending machine

Artec® Robo

#094927

Sensor Light

P.98 ➡

■ Dimensions: W 285 × H 167 × D 130 mm (11 × 6.6 × 5.1")
■ Materials: ABS, FR-4 ■ Weight: 714 g

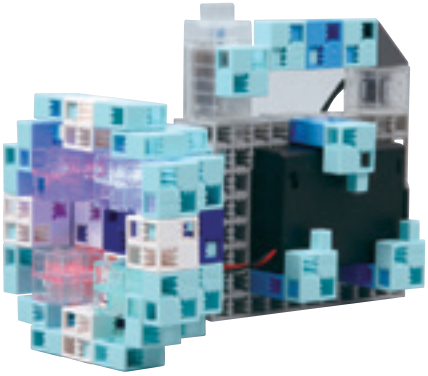
70+ Pieces | Studuino | Buzzer | LED | Sound Sensor | Light Sensor | Touch Sensor

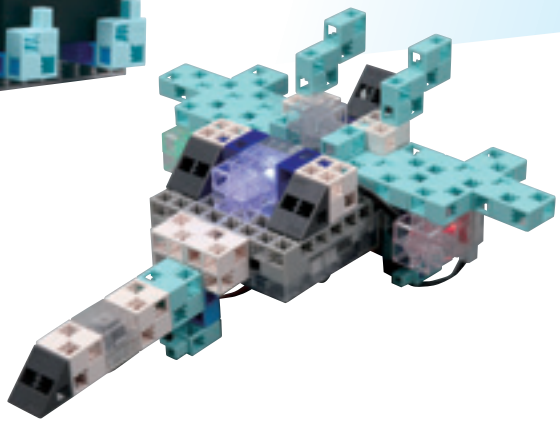
Requires battery (1.5V AA/LR6) ×3
(sold separately)

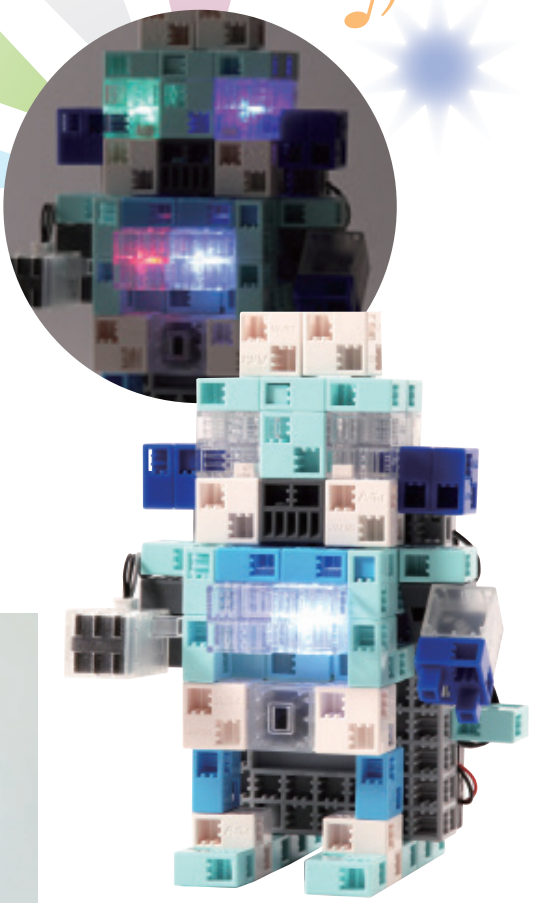
STEM

Features

- Program your Touch Sensor and make your robot respond with light and sound!
- Program light shows with your LEDs and play music with the Buzzer!
- Use the Touch Sensor to make a flashlight!







#094925

Sensor Car

P.98 ➡

■ Dimensions: W 285 × H 167 × D 130 mm (11 × 6.6 × 5.1")
■ Materials: ABS, FR-4 ■ Weight: 720 g

STEM

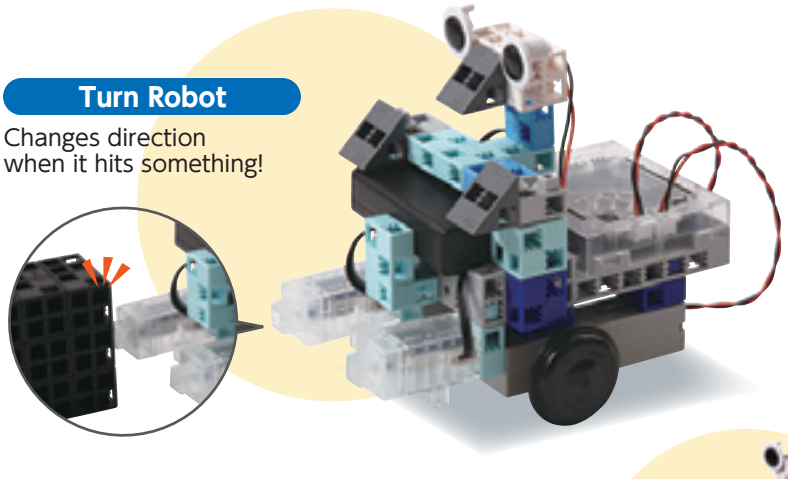
Requires battery (1.5V AA/LR6) ×3
(sold separately)

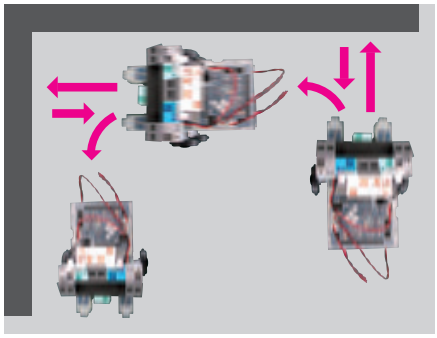
Features

- **Use the Touch Sensors to detect obstacles!**
- **Infrared can be used to detect objects, too!**
- **Control your robot to make more advanced actions using two infrared sensors!**

Turn Robot

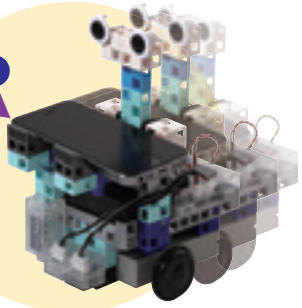
Changes direction when it hits something!

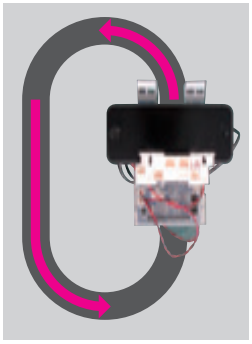


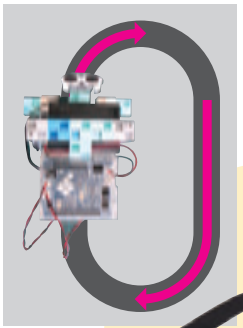


Transporter

Give it something to carry!

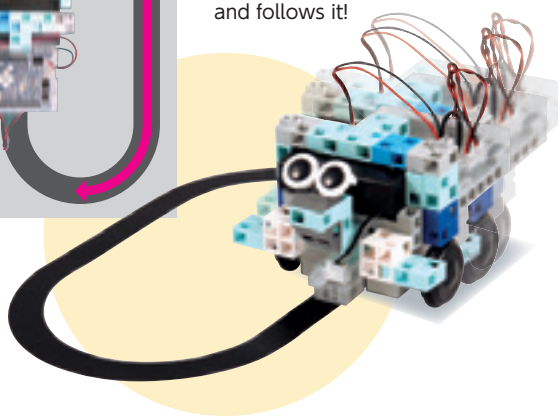






Line Tracer

Detects the line and follows it!



ArTeC® Robo

#153142

Basic (Cardboard)

■ Dimensions: W 375 × H 270 × D 70 mm (14.8 × 10.6 × 2.8")
■ Materials: ABS, FR-4 ■ Weight: 1,115 g

Cardboard

#094928

Basic (Plastic Case)

P.99 ➡

■ Dimensions: W 340 × H 215 × D 140 mm (13.4 × 8.5 × 5.5")
■ Materials: ABS, FR-4 ■ Weight: 1,253 g


Plastic Case

Requires battery (1.5V AA/LR6) ×3 (sold separately)

STEM

Features

- **Get a taste for ArtecRobo with every motor and sensor in the series!**
- **Mix and match them to make your very own robot!**
- **Use the Accelerometer to put the control of your robot in the palm of your hand!**

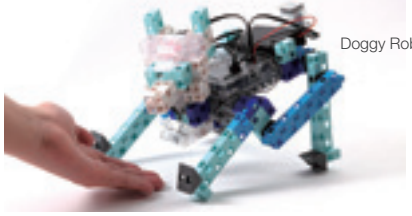

Sensor Control Robot

Accelerometer

The car can run in all directions by using an Accelerometer.
When the Accelerometer is shaken violently, the robot will show surprise by raising its arms.

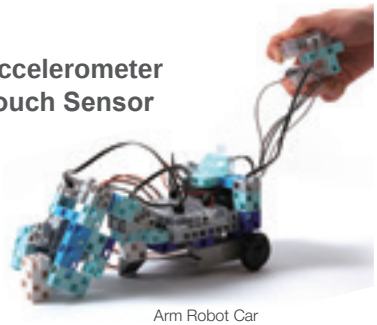
Infrared Sensor

When the IR Photoreflector under the chin detects a hand, the dog stops walking and shows affection.


Doggy Robot

Accelerometer Touch Sensor

Use your Accelerometer to move the robot. Grab and release objects with the arm using the touch sensor.

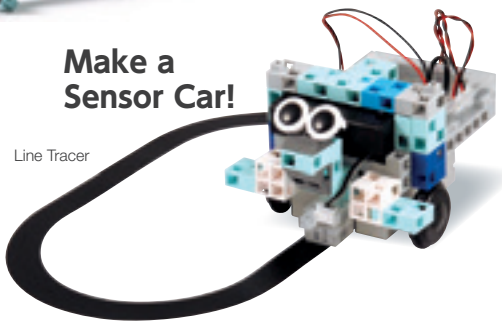

Arm Robot Car

Sound Sensor


When the Sound Sensor detects a loud noise, the dog will show surprise by raising its forelegs.


★ Board sticker included only in #094928.

Make a Sensor Car!


Line Tracer

Make a Sensor Melody Light Robot!


Sensor Melody Light Robot

#153143

Advanced (Cardboard)

■ Dimensions: W 375 × H 270 × D 70 mm (14.8 × 10.6 × 2.8")
■ Materials: ABS, FR-4 ■ Weight: 1,354 g

AWARD WINNER!

CREATIVE CHILD MAGAZINE CREATIVE CHILD AWARDS 2015 TOP TOY of the Year Award CREATIVECHILD.COM

#094929

Advanced (Plastic Case)

P.99➡

■ Dimensions: W 340 × H 215 × D 140 mm (13.4 × 8.5 × 5.5")
■ Materials: ABS, FR-4 ■ Weight: 1,462 g

Requires battery (1.5V AA/LR6) ×3 (sold separately)

Cardboard

STEM

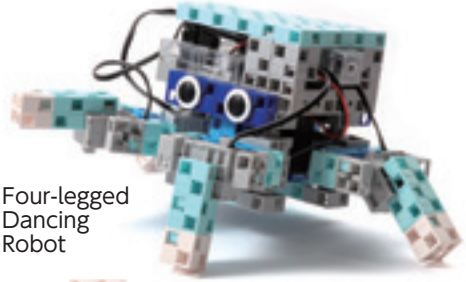
Plastic Case

Features

- **This full-fledged kit contains every motor and sensor in the ArtecRobo series.**
- **Find free instructions on our website and build them all!**
- **Use the different sensors to make a robot which can grab the blocks it detects or one that dances along to a melody you've programmed yourself!**

Buzzer

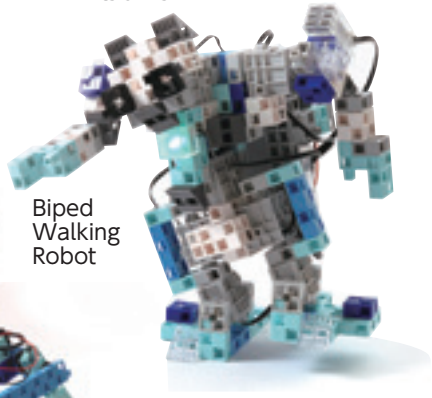
Watch your robot dance to the beat!



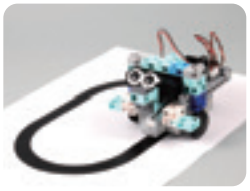
Four-legged Dancing Robot

Sound Sensor

Clap your hands and your robot will walk and swing its arms!



Biped Walking Robot

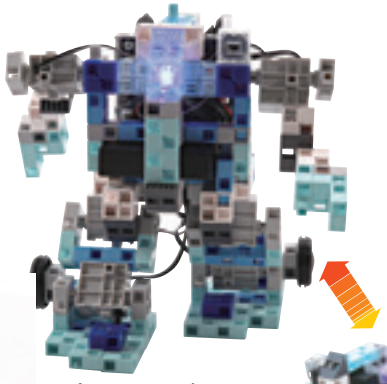


Line Tracer

Transporter

Sensor Melody Light Robot

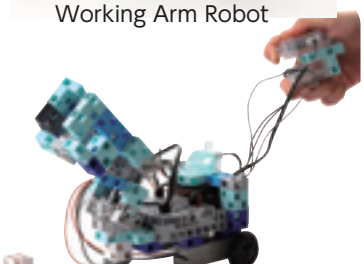
Doggy Robot



Transforming Robot

Working Arm Robot

★ Board sticker included only in #094929.



Arm Robot Car

Sensor Controlled Robot

ArTeC® Robo

#094926

Transforming Robot

■ Dimensions: W 285 × H 167 × D 130 mm (11 × 6.6 × 5.1")
■ Materials: ABS, FR-4
■ Weight: 1,130 g

Features
Build a walking android that transforms into a car and back again!

STEM

Biped Walking Robot

Transform

Just install & use!

Ready-to-use code available

#197871

T. REX (Cardboard)

■ Package dimensions: W 375 × H 270 × D 70 mm (14.8 × 10.6 × 2.8")
■ Materials: ABS, FR-4 ■ Weight: 990 g

#094930

T. REX (Plastic Case)

■ Package dimensions: W 285 × H 167 × D 130 mm (11 × 6.6 × 5.1")
■ Materials: ■ Weight: 1,050 g

Requires battery (1.5V AA/LR6) ×3 (sold separately)

Cardboard

Plastic Case

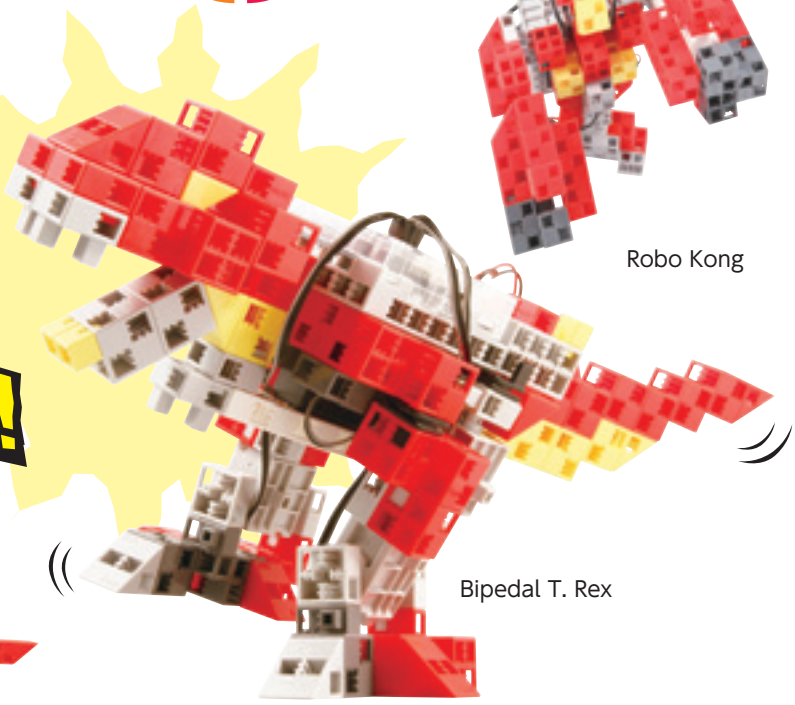
STEM

Walking Robot

Roar!

Programming made easy !

Robo Kong

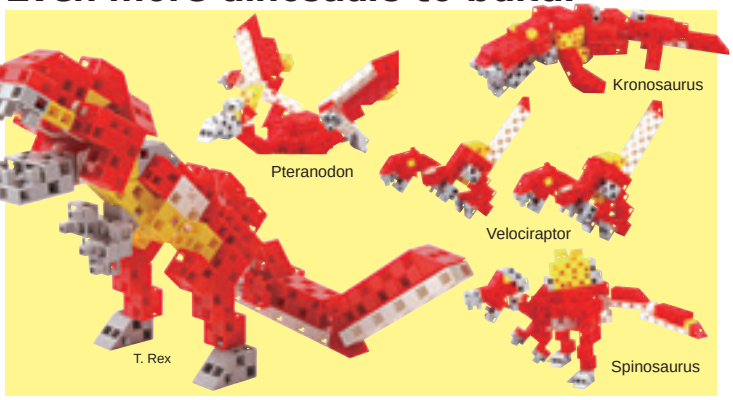


Bipedal T. Rex

Real Action T. REX

★ Board sticker included only in #094930.

Even more dinosaurs to build!



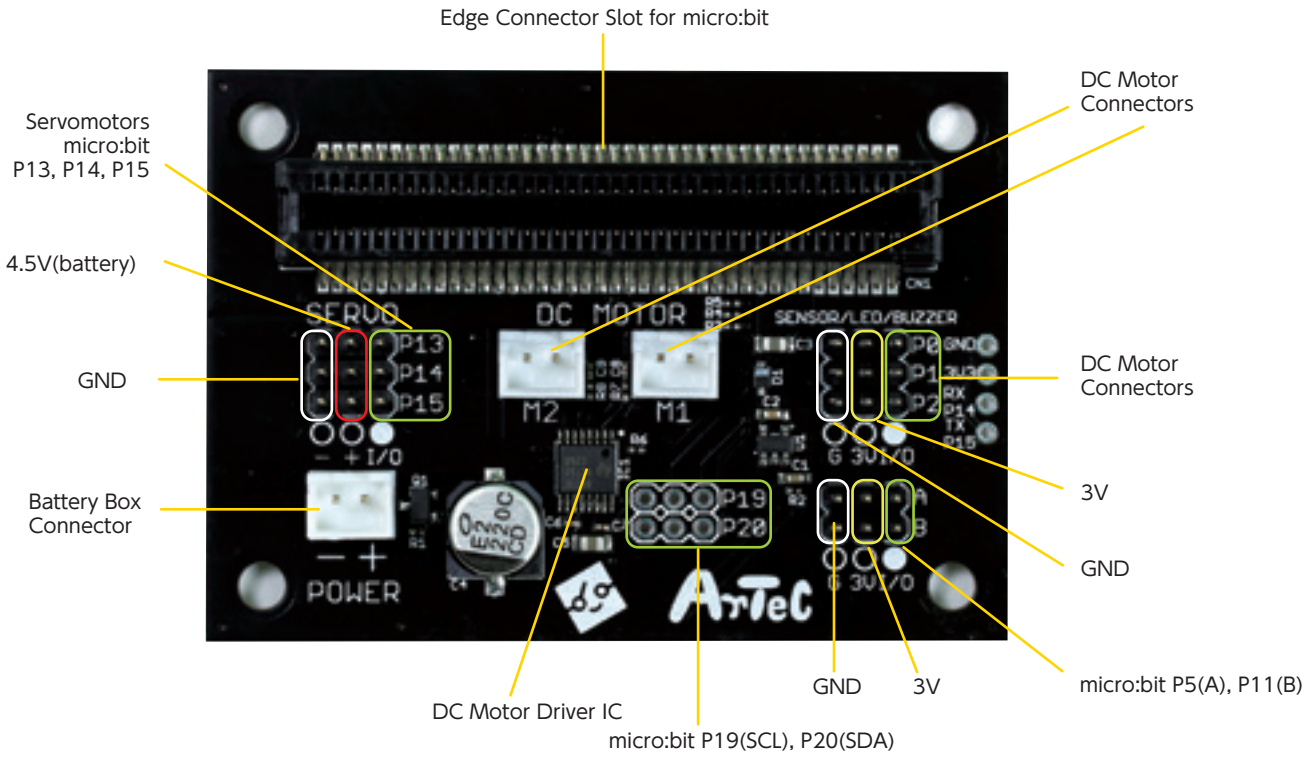
Download the guide from our homepage!

http://www.artec-kk.co.jp/dl/trexm/

★ Disclaimer: All products and information are subject to change without prior notice.

micro:bit Meets ArtecRobo!

Expansion Board
Connects your micro:bit and ArtecRobo!

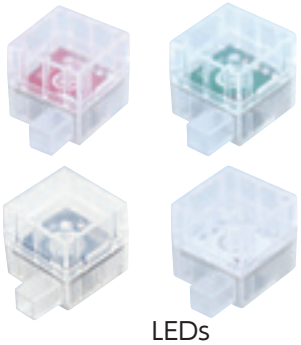


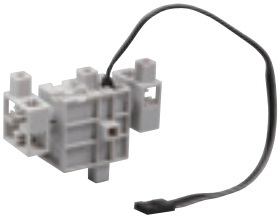
Supported ArtecRobo Components
Simple and Easy, Tool-free Connection!

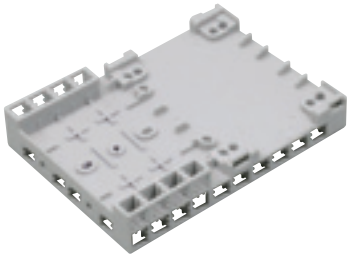

Light Sensor

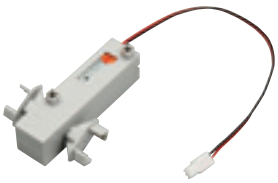

Sound Sensor


Touch Sensor

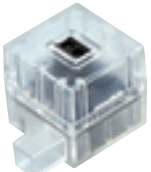

LEDs
(Red, Green, Blue, White)


Servomotor


Expansion Board Base


DC Motor


Buzzer


IR Photoreflector

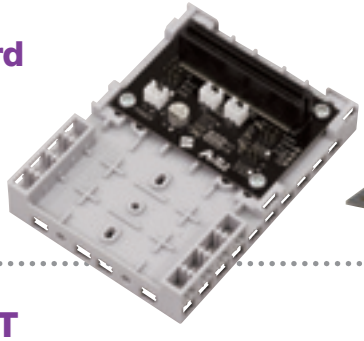

ArTeC Blocks

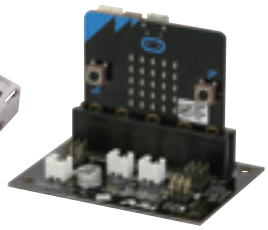
micro:bit Meets ArtecRobo!

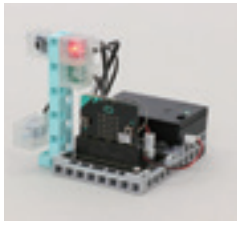
#091632

BBC micro:bit Expansion Board with Mount

■ Dimensions: W 80 × H 110 × D 30 mm (3.1 × 4.3 × 1.2")
■ Materials: ABS, FR-4 ■ Weight: 70 g



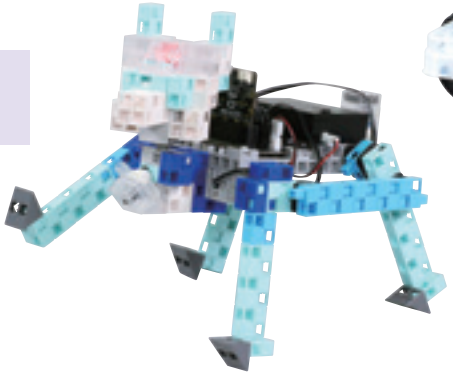




#091630

BBC micro:bit EXPANSION SET Powered by obolabs

■ Dimensions: W 340 × H 215 × D 140 mm (13.3 × 8.5 × 5.5")
■ Materials: ABS, FR-4 ■ Weight: 1,100 g

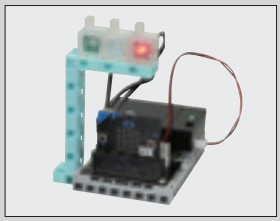


Lesson Materials Included!

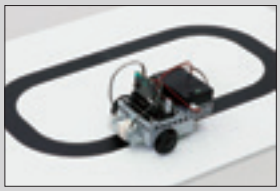
Comprehensive and fun lessons developed by Obolabs are available exclusively for ArtecRobo Basic BBC micro:bit Expansion Set! Lessons will help users understand how to program with BBC micro:bit, and also how to build physical robots and machines with ArtecRobo parts!

Robot Examples

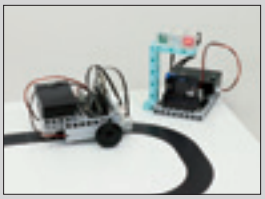
Building an original robot has never been this easy!



Traffic Signals
3 x LED



Line Tracer
2 x DC Motor,
2 x IR Photoreflector



Intelligent Transportation System

The future of transportation is here! The Line Tracer receives signals from the traffice light, so when the signal changes, the Line Tracer stops and starts automatically!

Intelligent Transportation System

This system connects two BBC micro:bits wirelessly to create an autonomous driving system that can detect changes in a traffic signal, using this information to start and stop your autonomous vehicle!

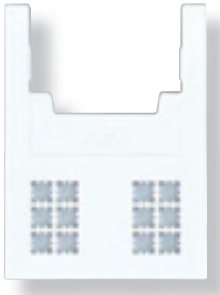
Traffic Signals

Autonomous Line Tracing Vehicle

#081695
ArtecRobo 2.0 Core Unit

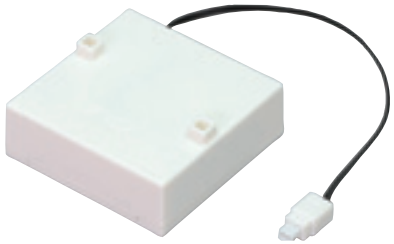
■ Dimensions: W 60 x H 60 x D 20 mm

#081696
ArtecRobo 2.0 Robot Expansion Unit



■ Dimensions: W 80 x H 110 x D 20 mm

#081697
ArtecRobo 2.0 Battery Box



■ Dimensions: W 60 x H 20 x D 60 mm

#082547
ArtecRobo 2.0 Color Sensor

Operating Voltage	3.3V
Range	20 mm (approx.)
Interface	12c

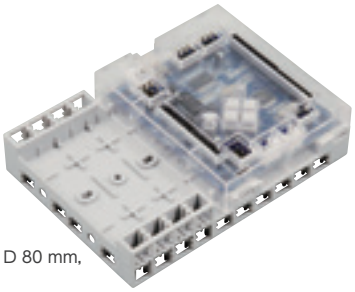
■ Dimensions: W 20 x H 36 x D 40 mm

#082544
ArtecRobo 2.0 Ultrasonic Sensor

Operating Voltage	3.3V
Measuring Range	3-250 cm
Measuring Angle	< 15° (approx.)
Frequency	40 kHz

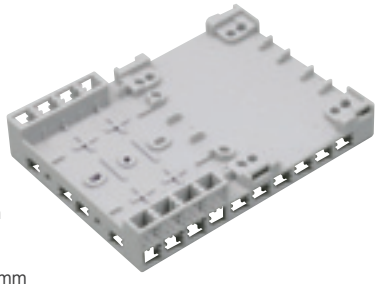
■ Dimensions: W 40 x H 36 x D 20 mm

#153191
Studuino with Base Mount & Cover



■ Dimensions: W 110 x H 26 x D 80 mm, cable (180 mm)

#081651
Base Mount for Studuino



● Holds your Studuino unit with room to spare for Sensors and Artec Blocks.

■ Dimensions: W 80 x H 20 x D 110 mm

#086850
Infrared Receiver for Robots

Operating Voltage	3.3 - 5 V
Carrier Frequency	38 kHz
Peak Wavelength	940 nm

■ Dimensions: W 20 x H 20 x D 36 mm

Uses 153125 153126 Sensor Connecting Cable (3-wire, 15 cm or 30 cm)

#086873
RBT-001 Bluetooth Module

Board Only

Module	RBT-001
Operating Voltage	2.5 - 3.3 V
Version	Bluetooth 2.0
Profile	SPP
Interface	UART
Communication Range	approx. 10 m

■ Dimensions: W 29 x H 9 x D 29 mm

● This product is Bluetooth certified.

Uses 086884 RBT-001 Bluetooth Module Connecting Cable (4-wire, 15 cm)

#151094
Bluetooth 4.0 (BLE) Module for Robots

Board Only

Sensor	3.3 V
Version	Bluetooth 4.0 Low Energy
Interface	UART (115200bps)
Communication Range	approx. 10 m

■ Dimensions W 37 x H 10 x D 16 mm

■ Materials FR-4, ABS

Connect to your Studuino to allow communication with iOS devices.

#086846

Temperature Sensor for Robots

Sensor	MCP9700
Operating Voltage	2.3 - 5.5 V
Operating Temperature	-40 + 125℃
Accuracy	± 4℃ (max.) (at 0-70℃)

■ Dimensions: W 20 x H 20 x D 36 mm

Uses 153125 153126 Sensor Connecting Cable (3-wire, 15 cm or 30 cm)

#086849

Gyroscope for Robots

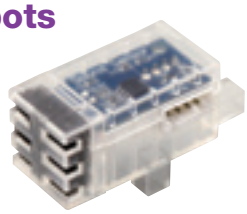
Sensor	MPU-6050
Operating Voltage	2.4 - 3.4 V
Interface	I2C
Gyroscope	Three-axis at ±250, ±500, ±1000, and ±2000 dps
Acceleration	Three-axis at ± 2 g, ± 4 g, ± 8 g, ± 16 g

■ Dimensions: W 48 x H 28 x D 20 mm

Uses 153127 Sensor Connecting Cable (4-wire, 50 cm)

#153199

Sound Sensor for Robots



Sensor	Electret condenser microphone
Operating Voltage (VCC)	3.3 - 5 V
Frequency Response	50-20000Hz
Output Voltage	0- (VCC-1.5V)

■ Dimensions: W 48 x H 28 x D 20 mm

Uses 153125 153126 Sensor Connecting Cable (3-wire, 15 cm or 30 cm)

#153200

Light Sensor for Robots

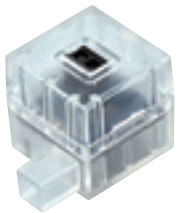
Sensor	SFH309
Operating Voltage (VCC)	3.3 - 5 V
Peak Wavelength Sensitivity (Smax)	860 nm
Range (10% of Smax)	380 - 1150 nm
Output Voltage	0 V-VCC

■ Dimensions: W 20 x H 20 x D 36 mm

Uses 153125 153126 Sensor Connecting Cable (3-wire, 15 cm or 30 cm)

#153201

Reflective Infrared Sensor for Robots



Sensor	RPR-220
Operating Voltage (VCC)	3.3 - 5 V
Output Voltage	0 V-VCC
Minimum Sensing Distance	5 - 10 mm

■ Dimensions: W 20 x H 20 x D 36 mm

Uses 153125 153126 Sensor Connecting Cable (3-wire, 15 cm or 30 cm)

#153202

Touch Sensor for Robots

Operating Voltage (VCC)	3.3 - 5 V
Switch Type	SPST, On Momentary
Operating Force	100 gf ± 50 g
Output Voltage	0 V or VCC

■ Dimensions: W 55 x H 28 x D 20 mm

Uses 153125 153126 Sensor Connecting Cable (3-wire, 15 cm or 30 cm)

#153203

Accelerometer for Robots

Sensor	MMA8653FC
Operating Voltage	1.95 - 3.6 V
Acceleration	Three-axis at ± 2 g, ± 4 g, ± 8 g
Interface	I2C

■ Dimensions: W 48 x H 28 x D 20 mm

Uses 153127 Sensor Connecting Cable (4-wire, 50 cm)

#153204

Electronic Buzzer for Robots

Operating Voltage	2.5 - 4 V
Resonant Frequency (fr)	2300 ± 500 Hz
Sound Pressure Level (at fr)	75+ dB

■ Dimensions: W 20 x H 20 x D 36 mm

Uses 153125 153126 Sensor Connecting Cable (3-wire, 15 cm or 30 cm)

ArtecRobo

LED for Robots

#153205 **Red** #153206 **Green** #153207 **Blue** #153208 **White**

	Red	Green	Blue	White
Operating Voltage	3.3 - 5 V	3.3 - 5 V	3.3 - 5 V	3.3 - 5 V
Forward Voltage (Vf) (If = 20 mA)	1.9 - 2.1 V	2.1 - 2.3 V	3.0 - 3.2 V	3.2 - 3.4 V
Peak Wavelength	625 nm	570 nm	465nm	–
Color Temperature	–	–	–	5500-6000K

■ Dimensions: W 20 x H 20 x D 36 mm

Uses 153125 153126 Sensor Connecting Cable (3-wire, 15 cm or 30 cm)

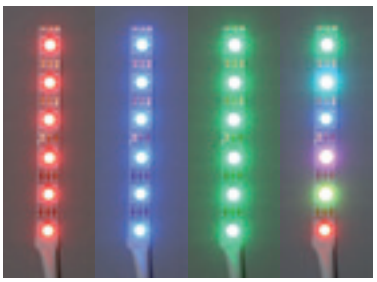
#153027

RGB LED Strip

Length		LED strip 120 mm, cable 280 mm
RGB LEDs		6
LED Wavelengths	R	620 - 625 nm
	G	467.5 - 470 nm
	B	522.5 - 525 nm
Operating Voltage		3.3 -5V

■ Dimensions:
W 10 x D 120 mm, cable (280 mm)

6 powerful full-color LEDs!



With programming, you can make every LED turn a different color!

Double-sided tape on the back of the strip

Connects with Artec Blocks!

#153021

Water Level Sensor

■ Dimensions: W 20 x H 7 x D 65 mm

#153028

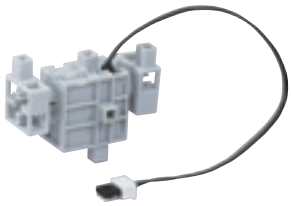
USB microB Cable (80 cm)

■ Dimensions: dia. 3.5 x 800 mm

#081698

ArtecRobo 2.0 Servomotor

Metal Gears



■ Dimensions: W 20 x H 46 x D 60 mm, cable (180 mm)
■ Materials: ABS

ArtecRobo 2.0 Sensor Connecting Cable

#081700 **3-wire, 15 cm**
#081699 **3-wire, 30 cm**
#081701 **4-wire, 30 cm**

3-wire, 15 cm

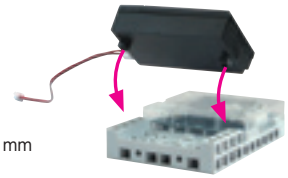
New plug shape prevents upside-down cable connections!

★ Other sensor parts are unchanged from the original ArtecRobo line.

#154013
Battery Box (corded) for Blocks

A Battery Box you can attach directly to the base.

Connects to the base like a block!

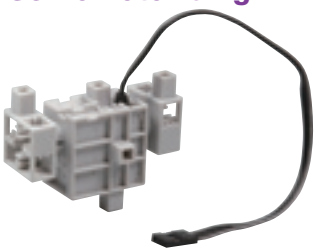


Plug a DC Motor directly into it!

★ The connector cable is removable.
(3 AA Batteries)

■ Dimensions W 79 x H 20 x D 49 mm
■ Materials ABS

#153194
Servomotor 3 kg

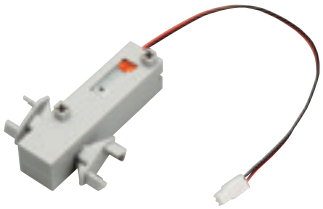


■ Dimensions: W 20 x H 46 x D 60 mm, cable (180 mm)

#153212
Extension Cable for Servomotors

■ Dimensions: 150 mm

#153195
DC Motor for Robots



■ Dimensions: W 20 x H 20 x D 80 mm

#153192
Battery Box (3 x AA/LR6 batteries)

■ Dimensions: W 69 x H 18 x D 49 mm

Sensor Connecting Cable

#153198 **3-wire, 15 cm**
#153196 **3-wire, 30 cm**
#153197 **4-wire, 50 cm**

3-wire, 15 cm

3-wire, 30 cm

4-wire, 50 cm

■ Connector: 2.54 mm pitch

Color Sensor Connecting Cable

#086882 **4-wire, 30 cm**

■ Connector: 2.54 mm pitch, GROVE

Bluetooth Module Connecting Cable (RBT-001)

#086884 **4-wire, 15 cm**

■ Connector: 2.54 mm pitch (2-wire), 2 mm pitch (6-wire)

Ultrasonic Sensor Connecting Cable

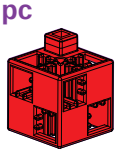
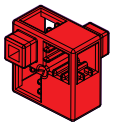
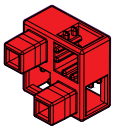
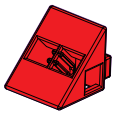
#086881 **4-wire, 30 cm**

■ Connector: 2.54 mm pitch

#153193
USB mini-B Cable

■ Dimensions: dia. 3.5 x 800 mm

ArTeC® Robo

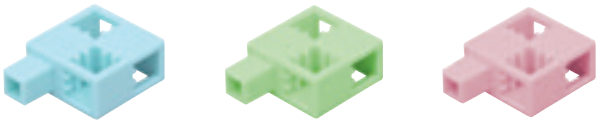
	Basic Cube 1 pc  W 20 x H 20 x D 20 mm	Half A 1 pc  W 20 x H 20 x D 10 mm	Half B 1 pc  W 20 x H 20 x D 10 mm	Triangle A 1 pc  W 20 x H 20 x D 20 mm	Mini Cube 1 pc  W 10 x H 10 x D 10 mm
Red	#65787	#65807	#65848	#65827	#65880
Pink	#65788	#65808	#65849	#65828	#65881
Light Pink	#65789	#65809	#65850	#65829	#65882
Blue	#65790	#65810	#65851	#65830	#65883
Aqua	#65791	#65811	#65852	#65831	#65884
Light Aqua	#65792	#65812	#65853	#65832	#65885
Yellow	#65793	#65813	#65854	#65833	#65886
Light Yellow	#65794	#65814	#65855	#65834	#65887
Pale Orange	#65795	#65815	#65856	#65835	#65888
Orange	#65796	#65816	#65857	#65836	#65889
Green	#65797	#65817	#65858	#65837	#65890
Yellow Green	#65798	#65818	#65859	#65838	#65891
Pale Green	#65799	#65819	#65860	#65839	#65892
Purple	#65800	#65820	#65861	#65840	#65893
Light Purple	#65801	#65821	#65862	#65841	#65894
Gray	#65802	#65822	#65863	#65842	#65895
Light Gray	#65803	#65823	#65864	#65843	#65896
Brown	#65804	#65824	#65865	#65844	#65897
White	#65805	#65825	#65866	#65845	#65898
Black	#65806	#65826	#65867	#65846	#65899

#065872
Basic Cube (Clear) (1 pc)

■ Dimensions: W 20 x H 20 x D 20 mm

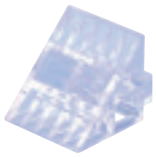
Half C (1 pc)

#041398 **Light Aqua**
#085755 **Pale Green**
#084338 **Light Pink**



■ Dimensions: W 20 x H 10 x D 18 mm

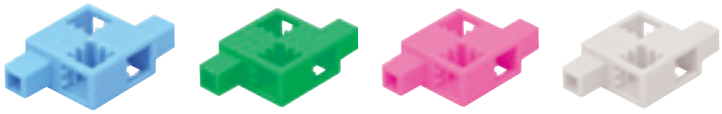
#065873
Triangle A (Clear) (1 pc)



■ Dimensions: W 20 x H 20 x D 20 mm

Half D (1 pc)

#041399 **Aqua**
#085756 **Green**
#084339 **Pink**
#065940 **White**



■ Dimensions: W 20 x H 10 x D 36 mm

#152482
Beam (1 pc)

■ Dimensions: W 20 x H 10 x D 104 mm

#065847
Disk (1 pc)

■ Dimensions: dia. 20 mm

#152483
Axle C (1 pcs)

For Robots

■ Dimensions: W 20 x H 20 x D 21 mm

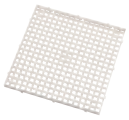
#077817
Axle (8 pc)

■ Dimensions: W 20 x H 20 x D 21 mm

#065916 **Base Plate 12**

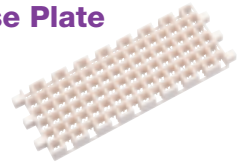
■ Dimensions: 12 /
W 120 x H 10 x D 120 mm

#065917 **Base Plate 18**



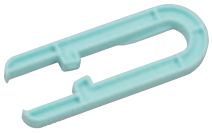
■ Dimensions: 18 /
W 180 x H 10 x D 180 mm

#077914
Base Plate



■ Dimensions: W 60 x H 10 x D 160 mm

#064770
Block Remover

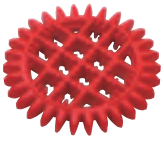


■ Dimensions: W 110 x H 10 x D 40 mm

#065871
Wheel (1 pc)

■ Dimensions: dia. 36 mm

#060281
Gear (L) (1 pc)



■ Dimensions: dia. 64 x 10 mm

#060282
Gear (S) (1 pc)

■ Dimensions: dia. 44 x 10 mm

#152485
O-ring (10 pcs)

■ Dimensions: dia. 35 mm

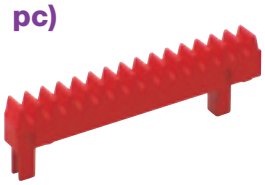
#88107
O-ring (wide) (2 pcs)

■ Dimensions: dia. 37 mm

#086877
Tire (2 pcs)

■ Dimensions: dia. 70 mm

#060283
Gear Rack (1 pc)



■ Dimensions: W 100 x H 20 x D 10 mm

Hands-on Lab

A collection of science experiments designed to turn chialdren around the world into lovers of science, and every one comes bundled with a fun and informative Study Guide!

Ages	Biology	Plants	Human Anatomy	Space	Chemistry	Chemistry
6+	196410 P.44 Labyrinth for Pill Bugs	196416 P.46 Plants from Scratch				196409 P.51 Liquid Colors
7+	196411 P.44 Egg to Adult Life Cycles	196417 P.46 Paper Maker	196424 P.48 Digestive Maze	196441 P.49 Planet Engineer		196402 P.51 Water Purification Kit
8+	196412 P.44 Build Your Own Microscope 300x	196418 P.46 Roots n' Shoots	196425 P.48 Bone Assembly	196401 P.49 Celestial Globe	196432 P.50 Budding Crystals	196437 P.51 Detective Lab
9+	196400 P.45 Ant World	196419 P.47 Botanico The Card Game	196426 P.48 Human Anatomy Cubes		196433 P.50 Unmixables Water & Oil	
10+	196413 P.45 The Food Chain Card Game	196420 P.47 Anatomy of a Plant				
11+		196421 P.47 Sprout Garden				196439 P.51 Make Your Own Litmus Paper
12+	196415 P.45 Bacteria Farm	196422 P.47 Photosynthesis in a Tube	196429 P.48 Model Eye with Liquid Lens		196436 P.50 Periodic Table Card Game	

Ages	Geology	Electricity	Motion	Forces	Light & Sound	Heat & Energy Conversion
6+	196446 P.52 Shiny Earth Balls	196452 P.54 My First Electric Circuit	196408 P.55 Balancing Numbers	196406 P.56 Magnet Racer	196470 P.58 Polarizing Film Magic	196477 P.59 See-Thru Ice
7+	196447 P.52 Time Warp Primitive Life-forms	196453 P.54 2-Way Car Circuit Kit		196458 P.56 Wind Wagon		
8+	196448 P.52 Planet Anatomy			196459 P.56 Bottle Crafts		196479 P.59 Tabletop Turbine
9+	196449 P.53 Polarizing Microscope with Detachable Lenses		196466 P.55 Roller Coaster Ride		196473 P.58 The Animator	196482 P.59 Mini Solar Car Set
10+		196407 P.54 Static Shocker		196461 P.57 Pulley Systems		
11+	196450 P.53 Weather Watcher		196467 P.55 Fly-High Rocket	196462 P.57 Air & Water Pressure Robot Kit	196474 P.58 Color Blender	196480 P.59 Magcell Car
12+	196451 P.53 Earthquaker			196463 P.57 Spring Force Experiment Kit		196483 P.59 Moving Heat

Biology

Learn about biology and the ecology of insects through experiments and games!

#196410

Labyrinth for Pill Bugs

AWARD WINNER!

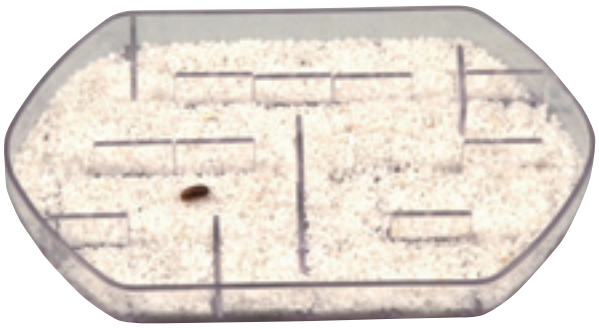
CREATIVE CHILD AWARDS 2014 seal of EXCELLENCE

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: AS, PE, CAB
■ Weight: 351 g

Observe and learn about the walking patterns of pill bugs!

Set the start and finish positions, then let your pill bug loose!

Study Guide inside!



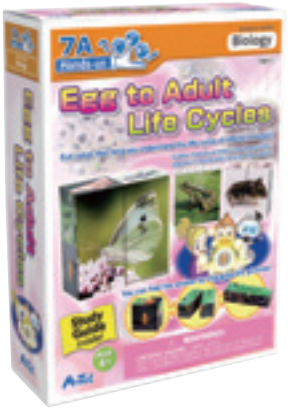
#196411

Egg to Adult Life Cycles

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: PP, paper
■ Weight: 249 g

Understand the full life cycle of three different organisms.

Study Guide inside!



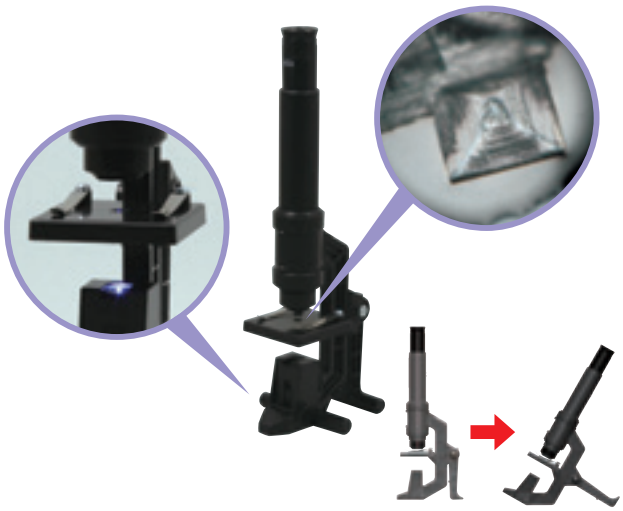
#196412

Build Your Own Microscope 300x

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Main body (ABS), Lens (PMMA)
■ Weight: 221 g

Build your own microscope and explore your world from a new perspective!

Study Guide inside!



P.133 ➡

#196400

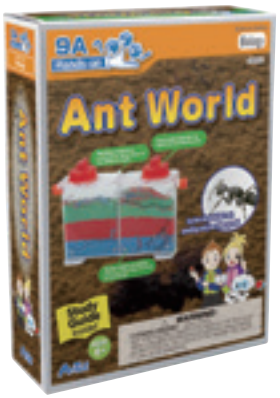
Ant World

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: PS, PE, glass, CAB, ABS
■ Weight: 557 g

See how ants build their nest, which is something rarely seen above ground!

Study Guide inside!

The included ant catcher lets you catch ants easily without harming them.



#196413

The Food Chain Card Game

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Paper
■ Weight: 285 g

Learn about terrestrial and aquatic ecosystems at the same time!

Study Guide inside!

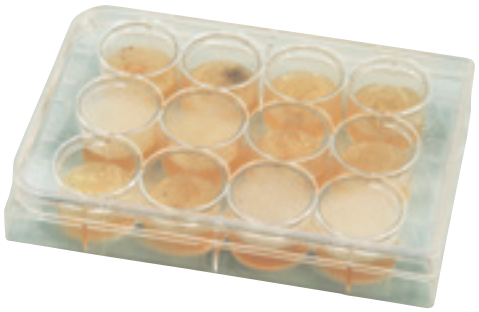
#196415

Bacteria Farm

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Beaker (PP), Small magnifier (CAB, glass), Cotton swab (PP), Cotton, Syringe (PP), rubber, Measuring spoon (ABS), Cultivation plate (PS)
■ Weight: 209 g

Observe and learn about bacteria that are invisible to the naked eye!

Study Guide inside!



P.133 ➡

Plants

Learn about botany through experiments and games about the ecology of plants!

#196416

Plants from Scratch

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Stem (LDPE), Blister (PET), Wire set (PE, coated steel)
■ Weight: 379 g

Learn the basics of plant observation and make your own plants!

Study Guide inside!

#196417

Paper Maker

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: PP, PE, PET
■ Weight: 230 g

Make paper from vegetables and plants!

Study Guide inside!

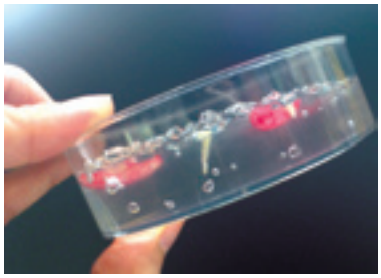
#196418

Roots n' Shoots

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Clear observation tank (PS), Sponge (polyurethane), Petri dish (PS), Polymer (sodium polyacrylate), Spoon (ABS), Dropper (PE), Mini magnifier (glass, CAB)
■ Weight: 201 g

See what plants look like underground!

Study Guide inside!



P.134 ➡

#196419

Botanico The Card Game

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Paper
■ Weight: 284 g

Learn the names, classifications, and characteristics of plants from these fact-filled cards and your Study Guide!

Study Guide inside!

#196420

Anatomy of a Plant

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Test tube, Cap, Beaker (PP), Tweezers, Measuring spoon (ABS), Dropper (PE), Magnifying glass (small) (glass, CAB), Test tube holder (EVA)
■ Weight: 175 g

Learn about the fantastic patterns inside of plant stems!

P.134➡

Study Guide inside!

#196421

Sprout Garden

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Test tube (PP), Test tube stand, Tweezers, Measuring spoon (ABS), Dropper (PE)
■ Weight: 208 g

Perform experiments and observe the vitality of plants!

P.135➡

Study Guide inside!

#196422

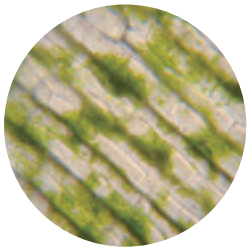
Photosynthesis in a Tube

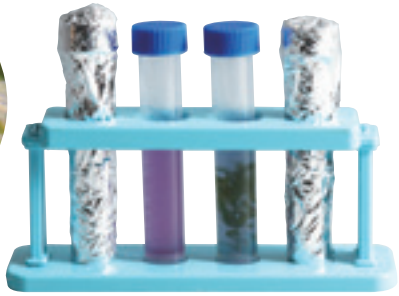
■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Test tube (PP), Test tube stand, Tweezers, Measuring spoon (ABS), Syringe (rubber, PP) ■ Weight: 202 g

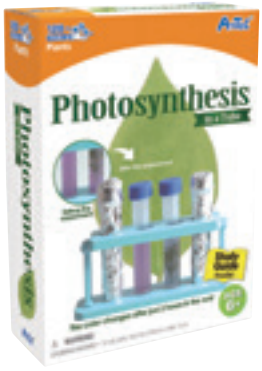
Watch photosynthesis take place in a matter of hours!

P.135 ➡

Study Guide inside!







Human Anatomy

Learn the names and function of bones, organs, and other parts of the human anatomy through puzzles and models!

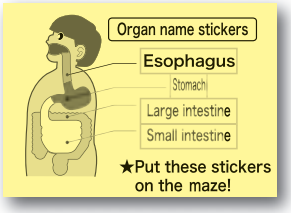
#196424

Digestive Maze

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: PS, steel ■ Weight: 209 g

Learn about the amazing journey that food takes through the human body!

Study Guide inside!



#196425

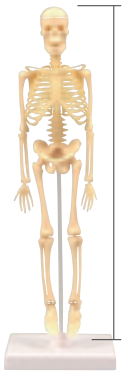
Bone Assembly

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Dimensions: Bone Assembly 70 x 35 x 300 mm (2.8 x 1.4 x 11.8"), Base W 105 x H 105 x D 25 mm (4.1 x 4.1 x 1") ■ Materials: PP, ABS ■ Weight: 379 g

Study the bones and joints of the human body with this compact, kid-friendly model!

Study Guide inside!

P.130➡



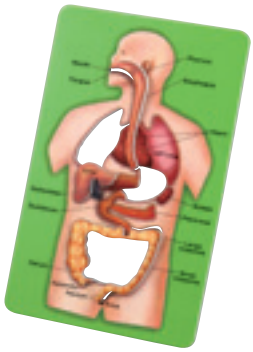
#196426

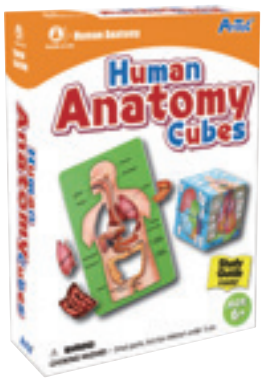
Human Anatomy Cubes

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: EVA, paper
■ Weight: 223 g

Learn about anatomy with this fun cube and puzzle set!

Study Guide inside!





#196429

Model Eye with Liquid Lens

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: ABS, PMMA, PP, PU, PVC, PET, Paper
■ Weight: 243 g

Faithfully reproduces the inner workings of the eye!

A lens whose focus can be adjusted by adding or removing water.

Study Guide inside!

P.129➡

Space

These tools and games will teach you about the celestial bodies commonly seen from Earth and the mysteries of outer space!

#196441

Planet Engineer

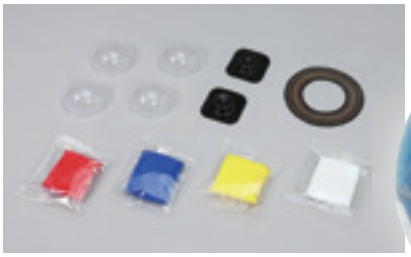
AWARD WINNER!

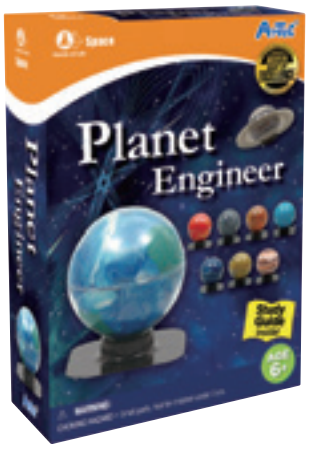
CREATIVE CHILD AWARDS 2014 seal of EXCELLENCE

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: Capsule (PS), Base, Rings (PET)
- Weight: 167 g

Learn about the Solar System and build two planets of your own!

Study Guide inside!





Mix colors to make beautiful, swirling patterns!

Use your thumbs to press the clay into the capsule before closing it!

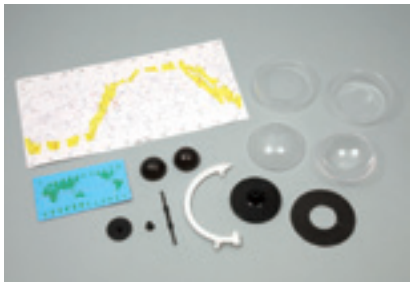
#196401

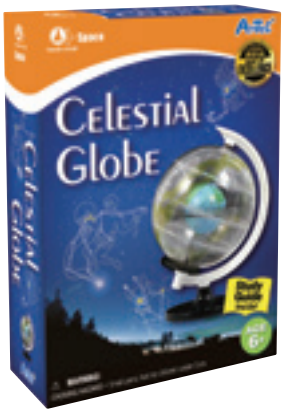
Celestial Globe

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: Paper, PP, PS
- Weight: 229 g

Control the movement of the stars above!

Study Guide inside!





Spin each globe separately to learn how the stars change!

Find out how the stars look from Earth!

Chemistry

Learn about the structure and properties of atoms and molecules, the building blocks of all chemicals, and the chemical reactions which change them!

#196432

Budding Crystals

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Test tube (PP), Test tube stand (ABS), Measuring spoon (ABS), Petri dish (GPPS, general purpose polystyrene), PVA glue container (PE)
■ Weight: 360 g

Make your own treasure trove of crystals!

Study Guide inside!

P.126➡

#196433

Unmixables Water & Oil

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Test tube, Joint (PP), Test tube stand (ABS) ■ Weight: 205 g

Use test tubes to experiment with the properties of oil and water!

Study Guide inside!

P.127➡

#196436

Periodic Table Card Game

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Paper
■ Weight: 297 g

A fun-filled way to learn and remember the elements!

Study Guide inside!

#196409

Liquid Colors

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Test tube (15 ml) (PP), Beaker (PP), Test tube stand (ABS), Measuring spoon (ABS)
■ Weight: 238 g

Use water to experiment with color!

Study Guide inside!

P.125➡

#196402

Water Purification Kit

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Transparent part (AS), Black part (PP) ■ Weight: 374 g

Learn two different techniques for purifying water!

Study Guide inside!

P.125➡

#196437

Detective Lab

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Magical light pen (PE), Magnifying glass (glass, CAB), Fingerprint duster (wood, feathers), Fluorescent powder, Plastic container (ABS, PE), Stamp pad (PS)
■ Weight: 184 g

Use the black light to clearly illuminate the fingerprints!

Study Guide inside!

#196439

Make Your Own Litmus Paper

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: Test tube, Beaker, Funnel (PP), Test tube stand, Measuring spoon (ABS), Dropper (PE)
■ Weight: 242 g

Make your own litmus paper using a magical powder!

Study Guide inside!

P.127➡

Geology

Learn about the evolution and structure of the Earth through experiments and observation!

#196446

Shiny Earth Balls

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: PP, steel, acrylic, glass, CAB
- Weight: 232 g

Use the Golden Ratio and find out how even dirt can be beautiful!

Study Guide inside!

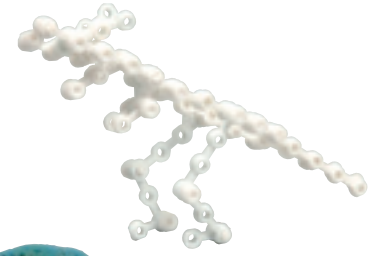
#196447

Time Warp Primitive Life-forms

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: LDPE
- Weight: 176 g

Bring the prehistoric world to life!

Study Guide inside!



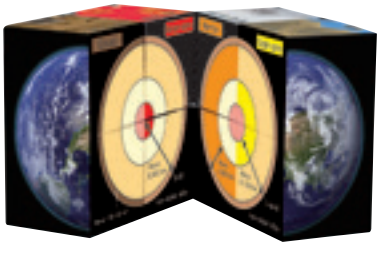
#196448

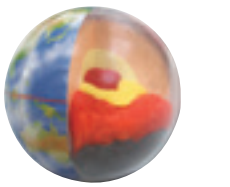
Planet Anatomy

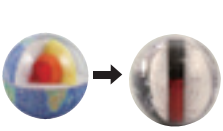
- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: PS, paper, PP
- Weight: 284 g

Recreate the Earth and learn what makes it tick!

Study Guide inside!







Recreate the inside of the Earth using flour modeling dough and a magnet.

#196449

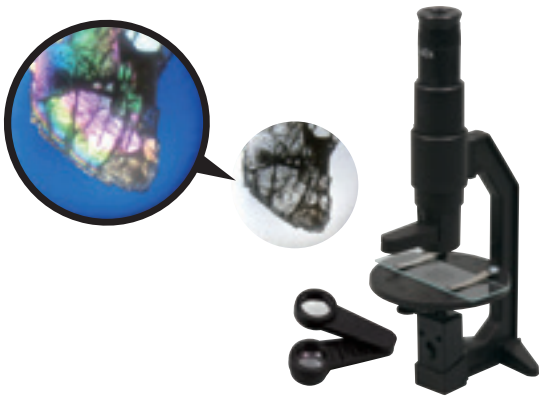
Polarizing Microscope with Detachable Lenses

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: ABS, PMMA, stainless steel
■ Weight: 167 g

Discover a world that you've never seen before!

Study Guide inside!

P.139➡



#196450

Weather Watcher

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: PP, paper, rubber, ABS, PVC, copper
■ Weight: 207 g

Observe and forecast the weather!

Study Guide inside!

P.139➡

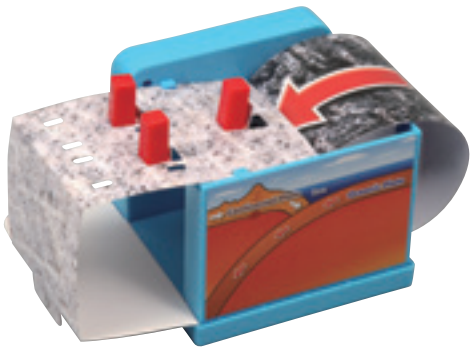
#196451

Earthquaker

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Materials: ABS, EVA, paper
■ Weight: 276 g

By observing the devastation to the model buildings included in the kit, you can see the damage caused by earthquakes. Also find out how earthquakes deform the Earth's crust.

Study Guide inside!



Electricity

Experiment and learn about the physical properties of electricity, electrical pathways, current, and static electricity using easy-to-grasp explanations!

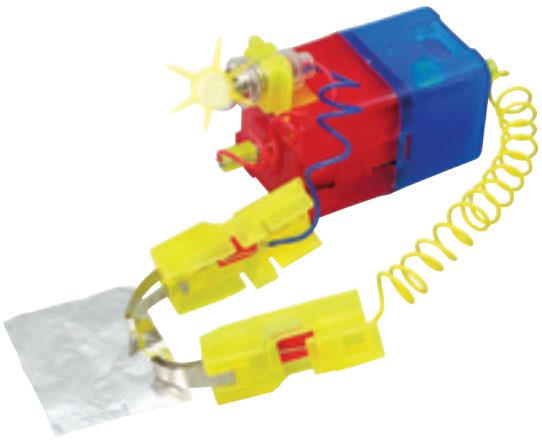
#196452

My First Electric Circuit

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: PP, steel
- Weight: 148 g

Learn how switches work and test conductivity!

Study Guide inside!



#196453

2-Way Car Circuit Kit

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: PP, paper, copper, steel
- Weight: 174 g

Discover the difference between series and parallel connections using this fun car. It makes multiple experiments possible!

Study Guide inside!

#196407

Static Shocker

AWARD WINNER!

CREATIVE CHILD MAGAZINE
CREATIVE CHILD AWARDS
2014
Preferred CHOICE Award
CREATIVECHILD.COM

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: ABS, PVC, rubber, aluminum, silicon rubber, steel
- Weight: 200 g

A compact Van de Graaff generator designed for personal use!

Study Guide inside!

P.113➡

Motion

Learn how rockets work, how airplanes fly, and the other forces that move physical objects!

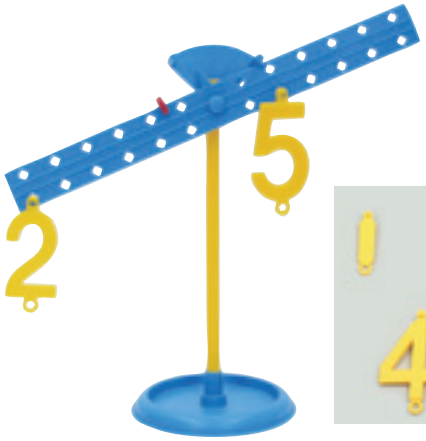
#196408

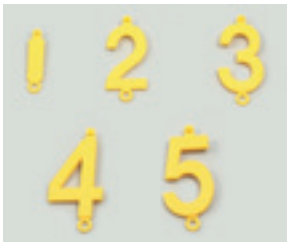
Balancing Numbers

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: PP
- Weight: 190 g

Learn about levers with a fun and accessible set of weights!

Study Guide inside!





P.115➡

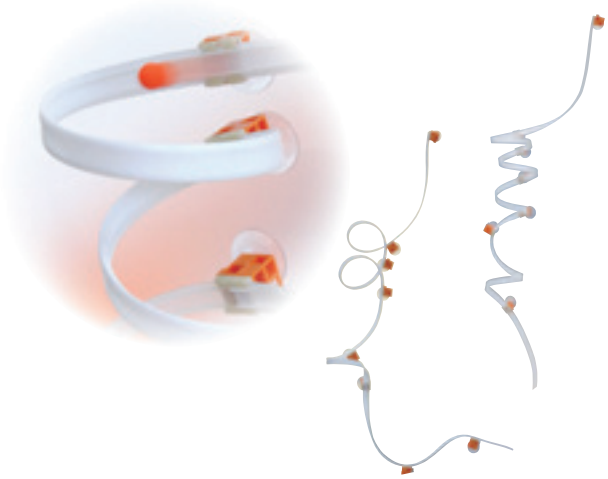
#196466

Roller Coaster Ride

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: ABS, PE, PP, PVC
- Weight: 242 g

Use Artec Blocks and suction cups to make the roller coaster of your dreams!

Study Guide inside!



#196467

Fly-High Rocket

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: EVA, PP, rubber, brass
- Weight: 195 g

Learn about four types of forces using a water rocket that flies 60 meters!

Study Guide inside!

P.117➡

Forces

Use the kits to learn about different types of forces such as water, air, buoyancy, friction, magnetism and elasticity!

#196406

Magnet Racer

AWARD WINNER!

CREATIVE CHILD MAGAZINE CREATIVE CHILD AWARDS 2014 seal of EXCELLENCE CREATIVECHILD.COM

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: PP, PS
- Weight: 297 g

Learn about basic magnetism!

Study Guide inside!

#196458

Wind Wagon

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: ABS, PP, paper, steel
- Weight: 159 g

Use the Study Guide and experiment to learn all about the forces that act on a car!

Study Guide inside!

#196459

Bottle Crafts

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: PP, EVA
- Weight: 169 g

Make a ship and unravel the mystery of buoyancy!

Study Guide inside!

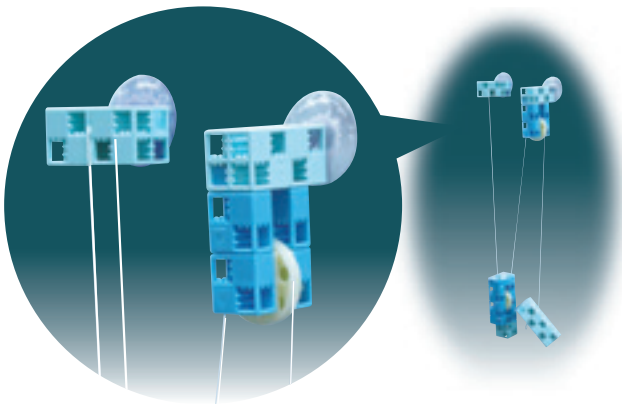
#196461

Pulley Systems

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: ABS, PVC
- Weight: 234 g

Learn how pulleys work by building one with Artec Blocks!

Study Guide inside!



#196462

Air & Water Pressure Robot Kit

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: ABS, PVC, PP, rubber
- Weight: 290 g

Learn about forces and pressure with Artec Blocks and a syringe!

Study Guide inside!

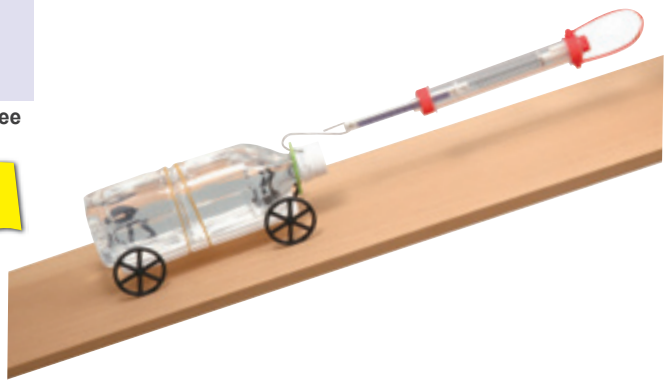
#196463

Spring Force Experiment Kit

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: ABS, PC, PP,metal
- Weight: 211 g

Discover different forces by using three types of spring balances and the included Study Guide!

Study Guide inside!



Light & Sound

Experience and play with changes in sound and light!

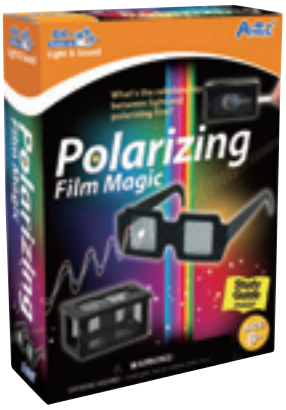
#196470

Polarizing Film Magic

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: PP
- Weight: 154 g

Explore the wonders of polarizing film!

Study Guide inside!



P.123➡

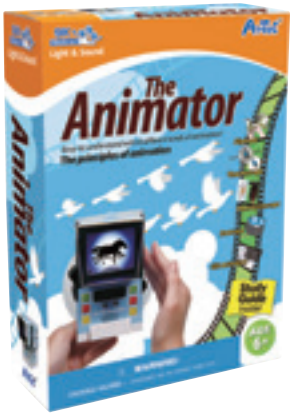
#196473

The Animator

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: ABS, paper
- Weight: 258 g

The secrets of animation are just a spin of a disk away!

Study Guide inside!



#196474

Color Blender

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: ABS
- Weight: 149 g

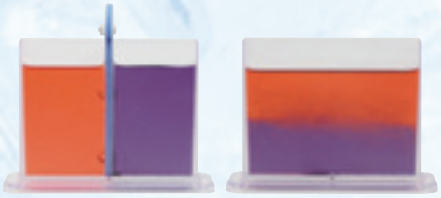
Uncover the mysteries of light and color!

Study Guide inside!

P.122➡

Heat & Energy Conversion

Learn about changes caused by heat and energy conversion by experimenting and building!



#196477

See-Thru Ice

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: PP, EVA, silicone rubber
- Weight: 191 g

Discover and observe the secrets of ice!

Study Guide inside!

P.119➡

#196479

Tabletop Turbine

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: PP, steel
- Weight: 188 g

Use a plastic bottle to make a wind-powered generator!

Study Guide inside!

#196482

Mini Solar Car Set

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: ABS, Steel, copper
- Weight: 128 g

Assemble your own mini solar car!

Study Guide inside!

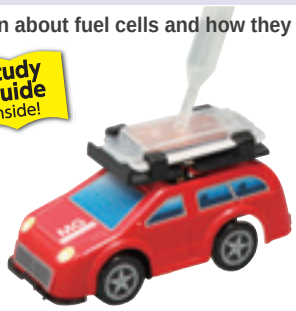
#196480

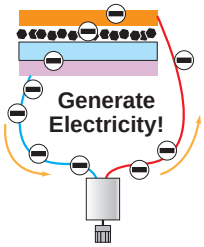
Magcell Car

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: ABS, steel, copper, magnesium
- Weight: 140 g

Learn about fuel cells and how they work!

Study Guide inside!





#196483

Moving Heat

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Materials: ABS, PP, PE, EVA, Phenolic paper
- Weight: 199 g

Unlock the secrets of heat and observe how it's transferred!

Study Guide inside!

P.119➡

Science Paper Crafts

Concept

1. Have fun making your own toys!
2. Improve your concentration!
3. Learn scientific principles!
4. Have fun playing!
5. Great for parents and kids!

#055840

New SPC Plane Launcher

■ Dimensions when assembled:
W 140 x H 85 x D 193 mm (5.5 x 3.4 x 7.6")

★ Product is plain white.

REQUIRES 2 x 1.5V AA/LR6 BATTERIES (SOLD SEPARATELY)

NEW

Contents

★ Paper for airplanes not included. Make yours using commercially-available paper.

#097517

New SPC Planetarium Kit

■ Dimensions when assembled:
W 170 x H 300 x D 180 mm (6.7 x 11.8 x 7.1")
■ Materials: Paper, PP, PE, copper

REQUIRES 3 x 1.5V AA/LR6 BATTERIES (SOLD SEPARATELY)

NEW

Contents

Make a night sky of your own!

#097513

New SPC Cyclone Cleaner

■ Dimensions when assembled:
W 210 x H 125 x D 75 mm (8.3 x 5 x 3")
■ Materials: Paper, metal

REQUIRES 2 x 1.5V AA/LR6 BATTERIES (SOLD SEPARATELY)

NEW

Contents

From plastic bottle to vacuum cleaner!

★ Use a round plastic bottle that's 65-70 mm in diameter!
★ Bottle not included.

#095050

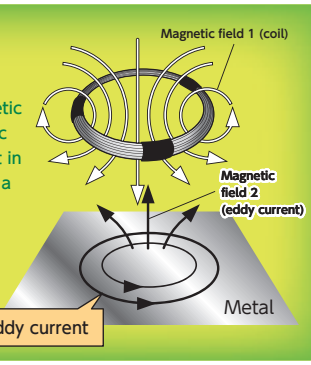
Metal Detector

AWARD WINNER!

2015 CREATIVE CHILD AWARDS PRODUCT of the Year Award

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Dimensions when assembled:
W 106 x H 90 x D 240 mm (3.5 x 4.2 x 9.4")
■ Materials: Paper, epoxy, copper, PP
■ Weight: 181 g

Applying electricity to a metal detector's coil creates a magnetic field. Being close to a magnetic field generates an eddy current in metal, and this current creates a second magnetic field. The interaction between these two fields is picked up by the coil, which allows it to detect the presence of metal!



P.107 ➡

The science inside

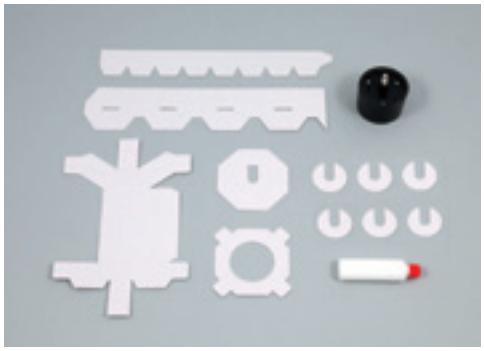
Go on a treasure hunt and learn how magnetic fields react to metal!

#094709

New SPC ECO light

NEW

■ Dimensions when assembled: W 105 x H 180 x D 67 mm (4.1 x 7.1 x 2.6")
■ Materials: Main body (paper), Solar LED light (PP, metal)

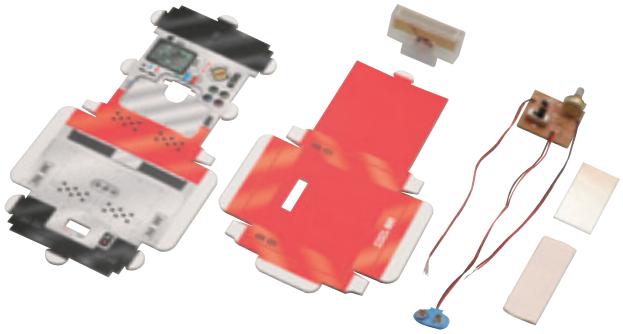


#095055

Lie Detector

AWARD WINNER!

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions when assembled : W 80 x H 110 x D 80 mm (3.1 x 4.3 x 3.1") ■ Materials: Paper, PS, aluminum ■ Weight: 185 g



The science inside

Discover how a lie detector works, and learn about electrical resistance!

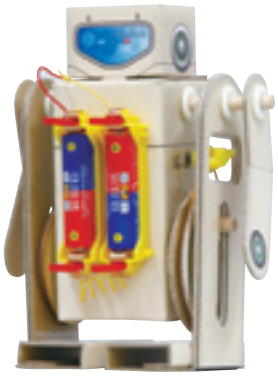
#095059

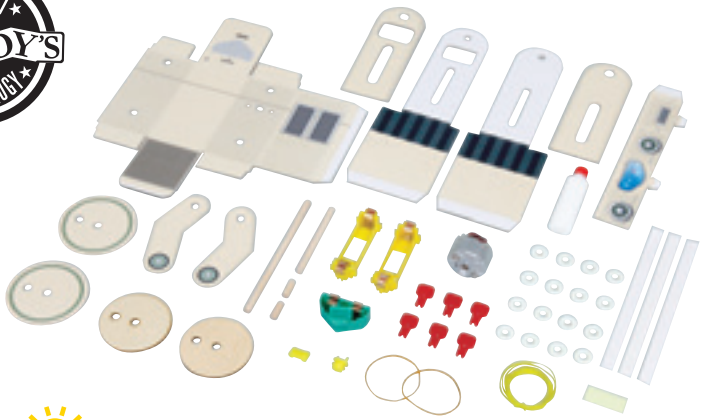
Walking Robot

AWARD WINNER!

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions when assembled : W 85 x H 155 x D 50 mm (3.4 x 6.1 x 2.0") ■ Materials: Paper, PP, wood, rubber, copper ■ Weight: 265 g

P.106 ➡





The science inside

Learn how the motor and pulley moves the robot!

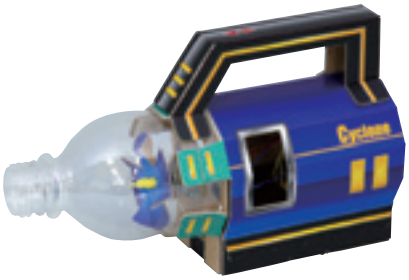
#095060

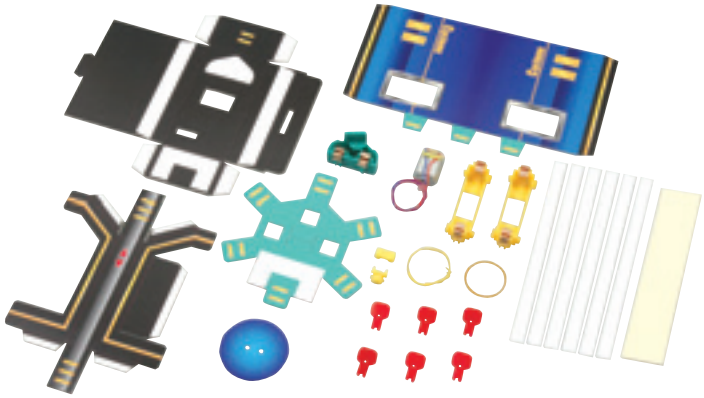
Vacuum Cleaner

AWARD WINNER!

■ Package dimensions: W 165 x H 225 x D 60mm (6.5 x 8.9 x 2.4") ■ Dimensions when assembled : W 75 x H 125 x D 210 mm (3.0 x 4.9 x 8.3") ■ Materials: Paper, PP, copper ■ Weight: 204 g

P.106 ➡





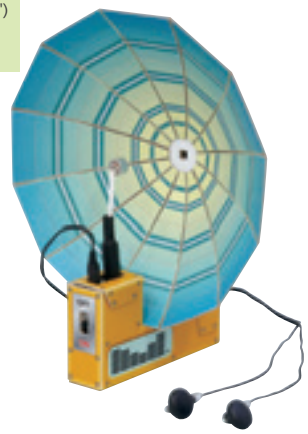
The science inside

Learn how air flows from higher to lower pressure areas!

#095051

Sound Collector

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Dimensions when assembled:
W 180 x H 210 x D 110 mm (7.1 x 8.3 x 4.3")
■ Materials: Paper, epoxy, copper, steel, PP
■ Weight: 254 g



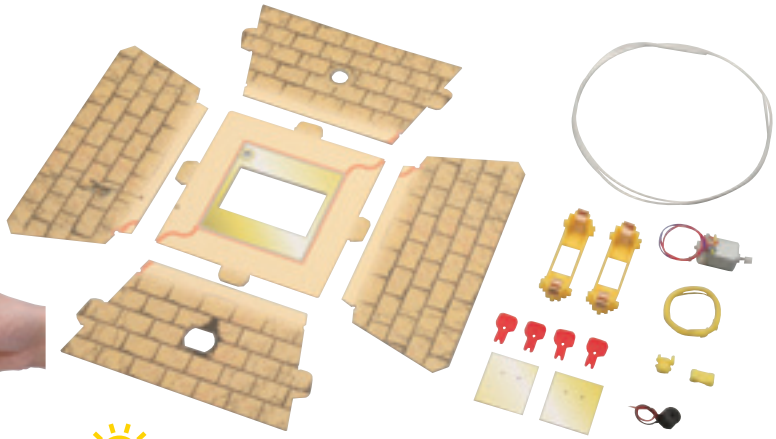
The science inside

Convert sound into electrical signals and vice versa.
Become a spy and have fun listening to different sounds!

#095052

Shock Game

■ Package dimensions:
W 165 x H 225 x D 60 mm(6.5 x 8.9 x 2.4")
■ Dimensions when assembled:
W 160 x H 140 x D 160 mm (6.3 x 5.5 x 6.3")
■ Materials: Paper, PP, aluminum, copper
■ Weight: 207 g



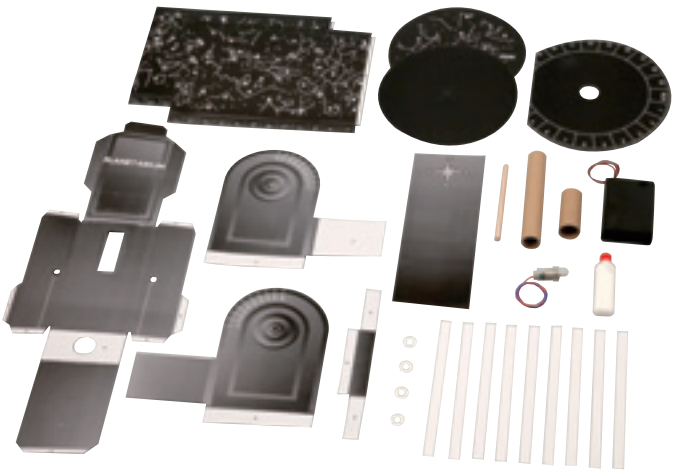
The science inside

Learn how current travels in a circuit and
why the game beeps when you touch the wire!

#095054

Planetarium

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Dimensions when assembled:
W 170 x H 300 x D 180 mm (6.7 x 11.8 x 6.5")
■ Materials: Paper, PP, PE, copper
■ Weight: 311 g



The science inside

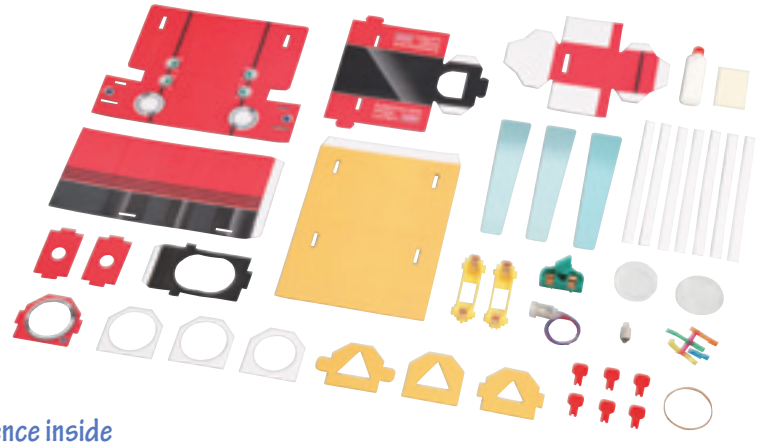
Turn your room into a planetarium!

* This planetarium only shows constellations from the northern hemisphere.

#095057

Kaleidoscope Projector

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions when assembled: W 270 x H 80 x D 53 mm (10.6 x 3.1 x 2.1") ■ Materials: Paper, ABS, PP, copper ■ Weight: 285 g



The science inside

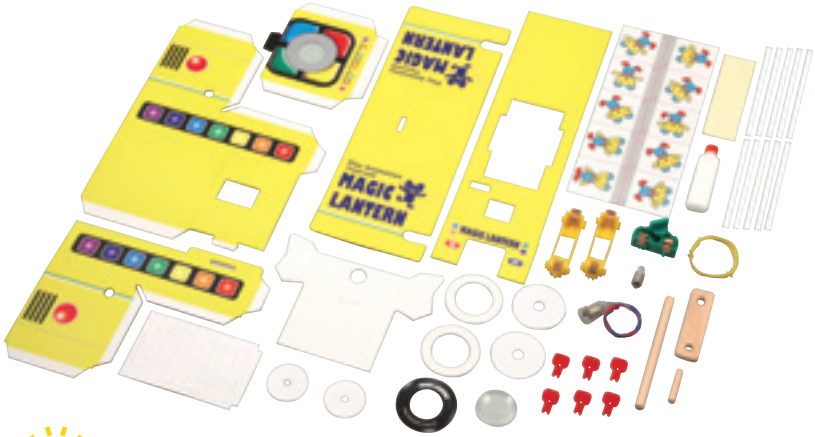
Learn about reflection of light and the image produced by a convex lens!

#095058

Anime Projector

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions when assembled: W 175 x H 130 x D 90 mm (6.9 x 5.1 x 3.5") ■ Materials: Paper, PP, copper ■ Weight: 278 g

P.107 ➡



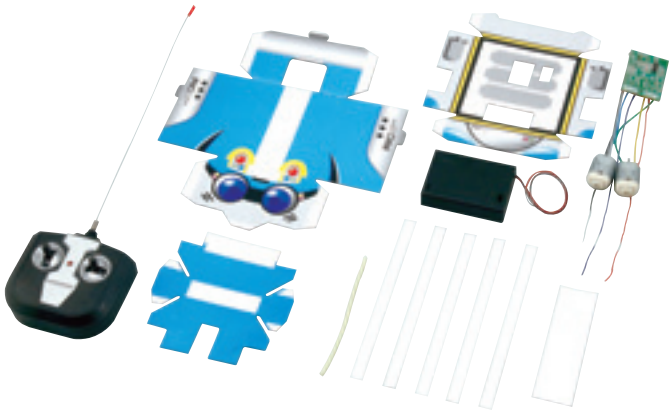
The science inside

Learn how animation is made and projected using the effect of persistence of vision!

#095062

RC Cube

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions when assembled: W 90 x H 85 x D 90 mm (3.5 x 3.3 x 3.5") ■ Materials: Paper, ABS, PP, copper ■ Weight: 284 g



The science inside

Learn how radio control moves the RC Cube!

#095063

LED 40X Microscope

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions when assembled: W 32 x H 77 x D 160 mm (1.3 x 3.0 x 6.3") ■ Materials: Paper, acrylic, ABS, PP ■ Weight: 197 g

The science inside

Learn how a convex lens works and examine the world around you!

#095064

Microscope Projector

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions when assembled: W 75 x H 60 x D 180 mm (3.0 x 2.4 x 7.1") ■ Materials: Paper, PMMA, ABS ■ Weight: 213 g

The science inside

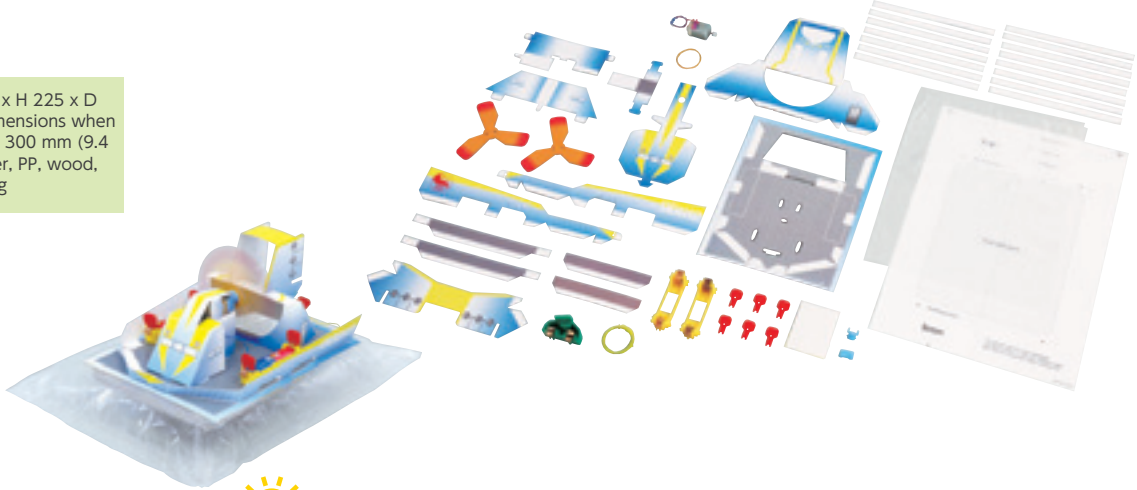
Learn how the enlarged image will appear where the rays of light converge!

#095065

Hovercraft

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions when assembled: W 240 x H 105 x D 300 mm (9.4 x 4.1 x 11.8") ■ Materials: Paper, PP, wood, rubber, copper ■ Weight: 241 g

P.107 ➡



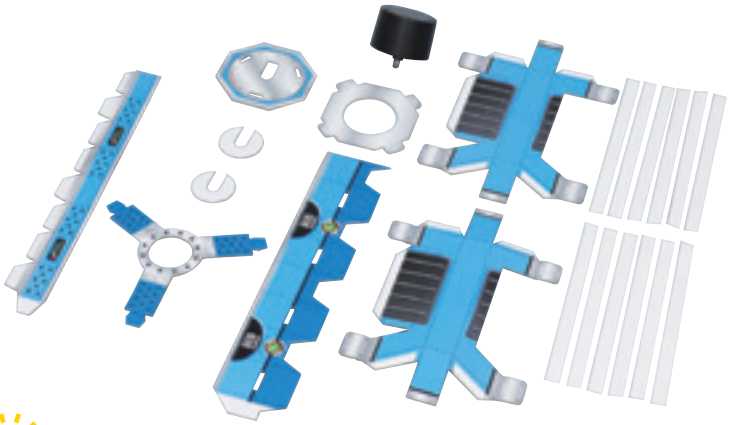
The science inside

Learn about how air pressure and friction make the hovercraft float and travel!

#095066

ECO Lantern

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions when assembled: W 145 x H 190 x D 72 mm (5.7 x 7.5 x 2.8") ■ Materials: Paper, PP, metal ■ Weight: 205 g



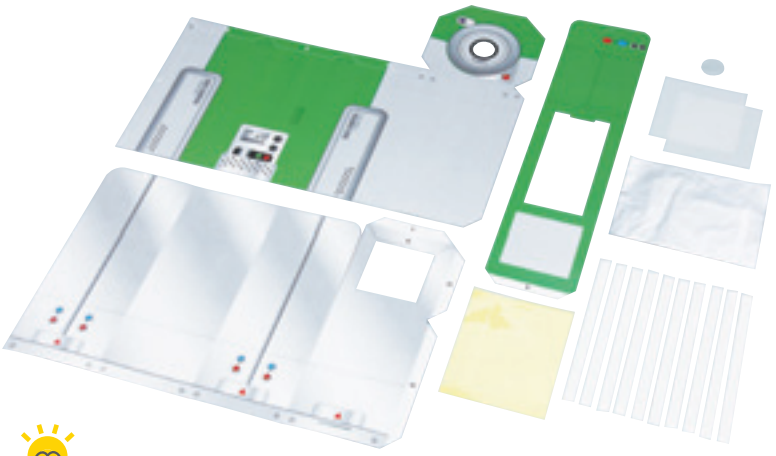
The science inside

Learn how solar cells work, and create green energy!

#095067

Box Camera

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions when assembled: W 87 x H 87 x D 215 mm (3.4 x 3.4 x8.5") ■ Materials: Paper ■ Weight: 208 g



The science inside

Learn how cameras work by making one of your own!

#095068

3D Camera

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions when assembled: W 175 x H 84 x D 175 mm (6.9 x 3.3 x6.9") ■ Materials: Paper, acrylic, PP ■ Weight: 346 g

The science inside

Learn how your brain forms a 3D image using a 3D camera!

Card Games

#197807

Ecology Card Game

■ Package dimensions: W 59 x H 88 x D 18 mm (2.3 x 3.5 x 0.7") (54 cards)
■ Materials: Paper ■ Weight: 81 g

A fun and simple game that teaches you how to live an eco-friendly lifestyle!

#197800

Energy Conversion Card Game

■ Package dimensions: W 60 x H 90 x D 35 mm (2.4 x 3.5 x 1.4") (108 cards)
■ Materials: Paper ■ Weight: 168 g

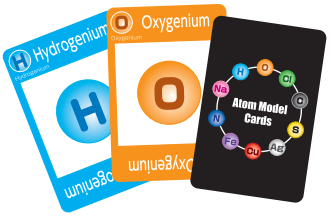
Acquire vehicles and appliances by converting various energy resources into electrical power!

#197702

Atomic Symbols Card Game

■ Package dimensions: W 59 x H 88 x D 30 mm (2.3 x 3.5 x 1.2") (80 cards)
■ Materials: Paper ■ Weight: 187 g

Have fun learning about atomic symbols and chemical formulas!



#197799

Plant Card Game

■ Package dimensions: W 60 x H 90 x D 35 mm (2.4 x 3.5 x 1.4") (108 cards)
■ Materials: Paper ■ Weight: 168 g

Have fun while learning the name, classification, and characteristics of each plant!

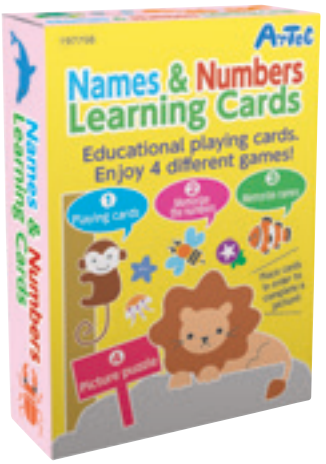
#197794

Constellation Playing Cards

■ Package dimensions: W 59 x H 88 x D 18 mm (2.3 x 3.5 x 0.7") (54 cards)
■ Materials: Paper ■ Weight: 85 g

These illustrated cards explain the beautiful constellations of each season!

P.137 ➡

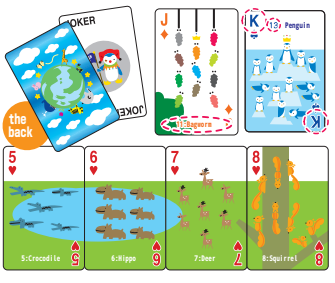


#197798

Names & Numbers Learning Cards

■ Package dimensions: W 59 × H 88 × D18mm (2.3 x 3.5 x 0.7") (54 cards)
■ Materials: Paper ■ Weight: 81 g

Connect all the cards to complete a picture!



#197703

Calculation Card Game

■ Package dimensions:
W 59 x H 88 x D 38 mm
(2.3 x 3.5 x 1.4") (108 cards)
■ Materials: Paper
■ Weight: 170 g

#197704

Length Units Card Game

■ Package dimensions:
W 59 x H 88 x D 38 mm
(2.3 x 3.5 x 1.4") (108 cards)
■ Materials: Paper
■ Weight: 170 g

#197705

Weight Units Card Game

■ Package dimensions:
W 59 x H 88 x D 38 mm
(2.3 x 3.5 x 1.4") (108 cards)
■ Materials: Paper
■ Weight: 170 g

#197707

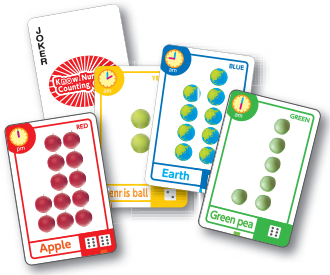
Shape Surface Area Card Game

■ Package dimensions:
W 59 x H 88 x D 38 mm
(2.3 x 3.5 x 1.4") (108 cards)
■ Materials: Paper
■ Weight: 170 g

#197706

Know Number Card Game

■ Package dimensions:
W 60 x H 90 x D 20 mm
(2.4 x 3.5 x 0.8") (54 cards)
■ Materials: Paper
■ Weight: 91 g



Kaleidoscopes

#198179

Space Kaleidoscope

■ Package dimensions:
W 100 x H 190 x D 52 mm
(3.9 x 7.5 x 2.0")
■ Materials: Paper, PP, PVC
■ Weight: 57 g

Take a look into an infinite universe!

- Assemble the body, install the Space Kaleidoscope film, and enjoy!
- There are four familiar stellar bodies on the Space Kaleidoscope film: Earth, Moon, Sun, and Saturn.

P.137 ➡

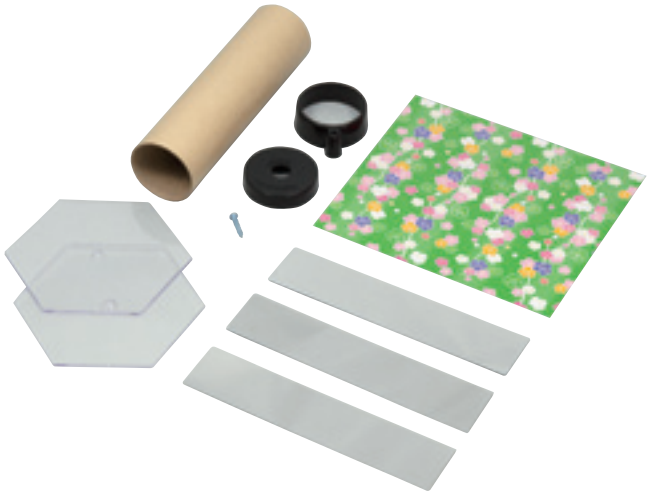
#198014

Kaleidoscope (plate type)

■ Package dimensions:
W 100 x H 190 x D 52 mm
(3.9 x 7.5 x 2.0")
■ Materials: Paper, plastic
■ Weight: 90 g

Creates changing patterns from two spinning plates!

Draw your designs on the transparent plates. Rotate the kaleidoscope and marvel at the changing image!



#198015

Kaleidoscope (wand type)

■ Package dimensions:
W 100 x H 190 x D 52 mm
(3.9 x 7.5 x 2.0")
■ Materials: Paper, plastic
■ Weight: 100 g

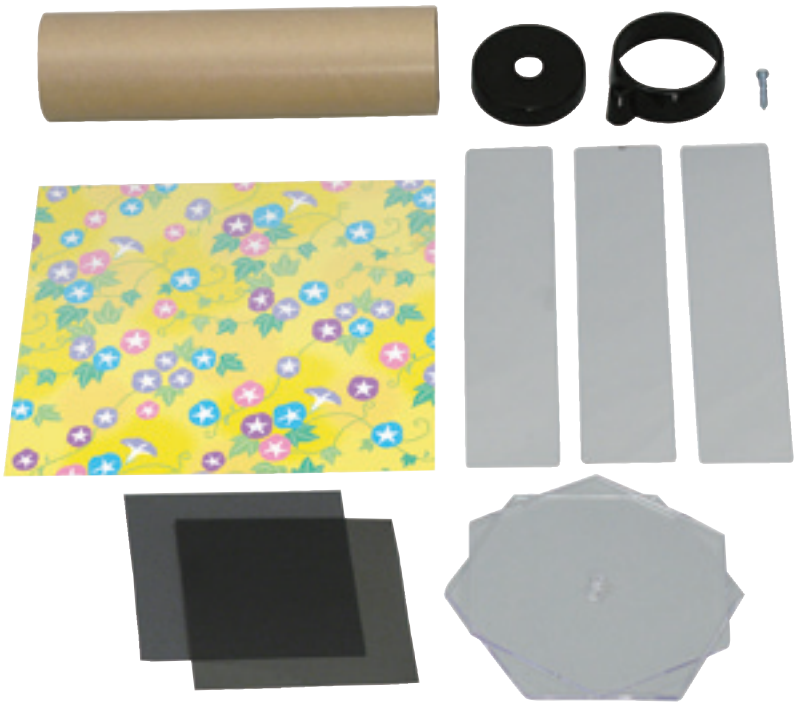
The colored metallic film in the wand transforms images in spectacular ways!

#198093

Kaleidoscope (polarizing)

■ Package dimensions:
W 100 x H 190 x D 52 mm
(3.9 x 7.5 x 2.0")
■ Materials: PP, GPPS, PET, paper, TAC
■ Weight: 93 g

See a brilliant rainbow of colors on the transparent plates!



#198013

Japanese Chiyogami Kaleidoscope

■ Package dimensions:
W 100 x H 190 x D 52 mm
(3.9 x 7.5 x 2.0")
■ Materials: Paper, plastic
■ Weight: 65 g

Cut your own unique patterns!
The larger the pattern, the more beautiful the kaleidoscope image!

Enjoy the beautiful patterns!

Origami Books

#197808

Origami Craft Book 1

■ Package dimensions: W 155 x H 215 x D 3 mm (6.1 x 8.5 x 0.1")
■ Materials: Paper ■ Weight: 40 g

Folding fun with planes, critters, and more!

#197809

Origami Craft Book 2 (Let's go to the zoo!)

■ Package dimensions: W 155 x H 215 x D 3 mm (6.1 x 8.5 x 0.1")
■ Materials: Paper ■ Weight: 40 g

A collection of 10 zany zoo animals!

#197810

Origami Craft Book 3 (Let's go to the aquarium!)

■ Package dimensions: W 155 x H 215 x D 3 mm (6.1 x 8.5 x 0.1")
■ Materials: Paper ■ Weight: 40 g

Bring 10 spectacular sea creatures to life!

#197793

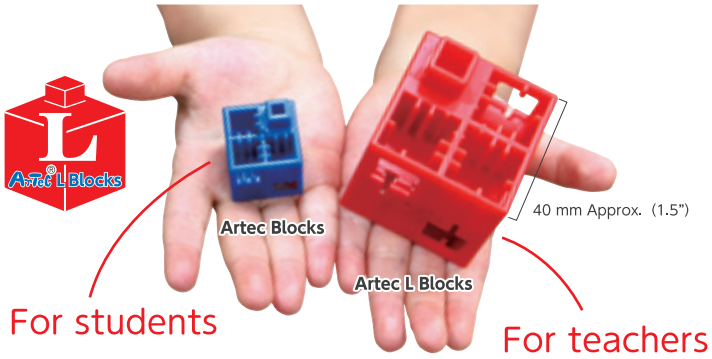
Origami Craft Book 6 (Flying Science)

■ Package dimensions: W 210 x H 155 x D 1 mm (8.3 x 6.1 x 0.03")
■ Materials: Paper ■ Weight: 40 g

Fly the skies with 9 amazing paper crafts!

School Materials

L Blocks for School



L Blocks' bigger size lets teachers make demonstrations at the front of the class while students follow along using their Artec Blocks.

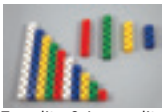
#151836

Artec L Blocks Primary Class Set 120

P.19➡

MATHEMATICS

- Basic Shapes
- Tangrams
- Equality & Inequality
- Block Patterns
- Block Illusions
- Triangle Composition
- Area
- Volume
- Fractions
- Pythagorean Theorem


Equality & Inequality


Block Patterns


Volume


Pythagorean Theorem

#151811

Artec L Blocks Mathematics Set

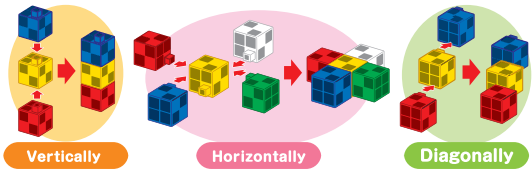
P.19➡

Give kids the gift of STEM

Science Technology Engineering Mathematics

Artec Blocks are perfect for education in every STEM category.

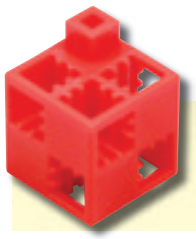
Develop: Creativity, Critical Thinking



The structure of conventional blocks only allows you to stack them on top of one another.
As a result:
1. The finished product never really turns out the way you imagined it.
2. Making anything larger than a certain size requires you to plan ahead.
But Artec blocks can be connected vertically, horizontally, and even diagonally, giving you total freedom in how you choose to join them together. Individual cubes can be combined to make nearly any sort of shape. This is a block that lets you bring your ideas to life exactly how you imagine them, no matter your age! Say goodbye to long planning times and hello to an unparalleled ease of use!

The revolution is here with Artec blocks!

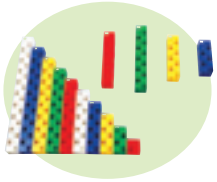
STEP 1



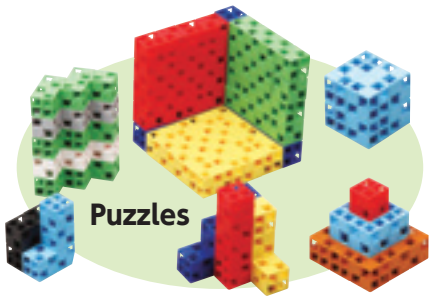
The cube shape of Artec blocks make them perfect for studying math, whether counting or building.

Mathematics

Shapes and numbers



Learning math

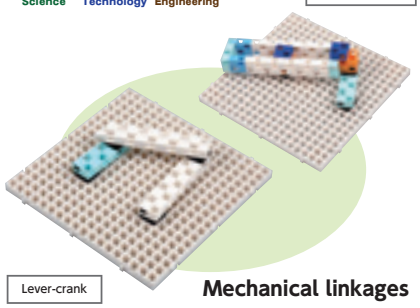


STEP 2

Technology Mathematics

Toys with gears

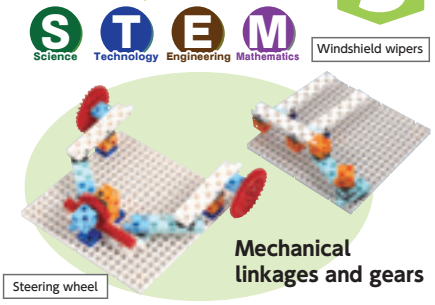
Science Technology Engineering



Mechanical linkages

STEP 3

Science Technology Engineering Mathematics



Mechanical linkages and gears

Science Technology Engineering

Build robots using linkages!

STEP 4

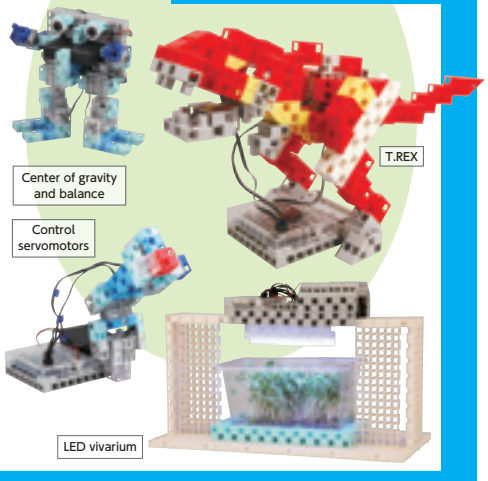
Technology Engineering

Make and program a robot just for you!

Artec Robo

Controlled by Studuino based on ARDUINO

Programmed by



#095084

BlockRobo Links Basic

NEW

85 pcs

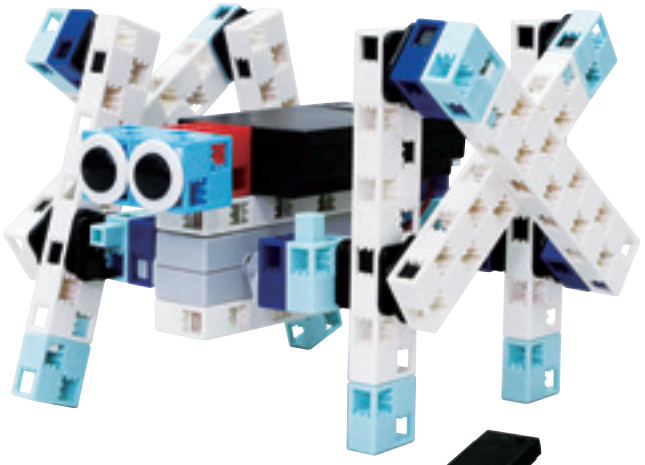
4 IN 1 — 44 page Manual included

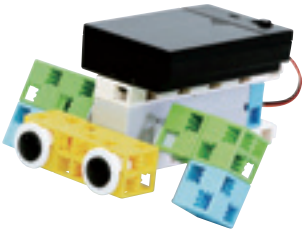
Use gears and linkages to transmit force and motion!

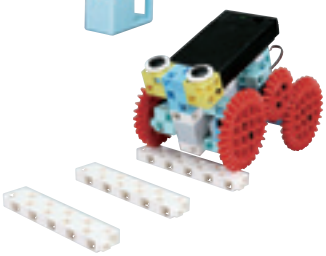
■ Package dimensions:
W 175 x H 225 x D 45 mm (6.9 x 8.9 x 1.8")
■ Materials: ABS, FR-4 ■ Weight: 422 g

Contents P.15 ➡

Battery Box	1
DC Motor	1
Gear (L)	4
Gear (S)	2
Basic Cube (Red)	2
Basic Cube (Yellow)	3
Basic Cube (Aqua)	6
Basic Cube (Yellow-Green)	4
Half B (Blue)	10
Half C (Light Aqua)	21
Half D (Aqua)	4
Beam	10
Axle	15
Disk	2
Block Remover	1







#095086

BlockRobo Links Advanced

NEW

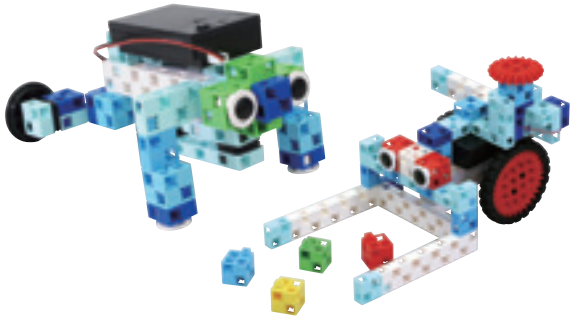
157 pcs

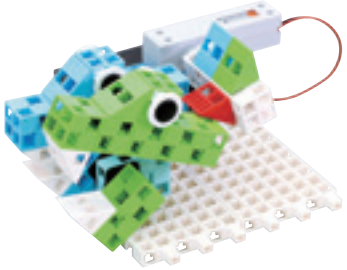
5 IN 1 — 72 page Manual included

■ Package dimensions:
W 175 x H 225 x D 45 mm (6.9 x 8.9 x 1.8")
■ Materials: ABS ■ Weight: 657 g

P.15 ➡

Use even more gears, blocks, and other parts to create complex mechanisms!





Contents

Battery Box	1
DC Motor	1
Gear (L)	4
Gear (S)	2
Basic Cube (Red)	12
Basic Cube (Yellow)	10
Basic Cube (Aqua)	14
Basic Cube (Yellow-Green)	8
Basic Cube (White)	10
Triangle (Red)	4
Triangle (Yellow)	1
Triangle (Aqua)	2
Triangle (Yellow-Green)	2
Triangle (White)	2
Half A (White)	5
Half B (Blue)	10
Half C (Light Aqua)	25
Half D (Aqua)	7
Beam	10
Axle	15
Disk	4
Wheel	2
O-ring	2
Tire	2
Base Plate	2
Rubber Band	3
Block Remover	1

GoTechUp: ArtecRobo

NEW

Ages 8+

Tablet & PC

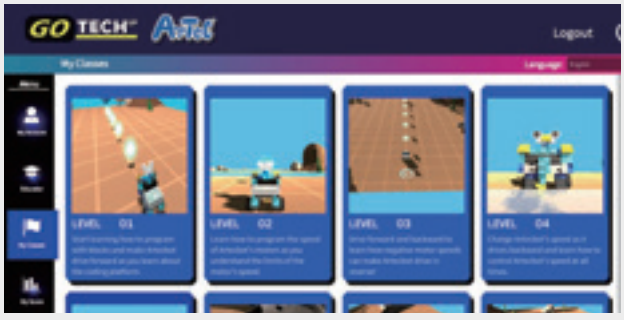
Internet Required

TECH UP KIDS LEARNING × ArTeC®

Learn online from anywhere, no blocks or robots required.

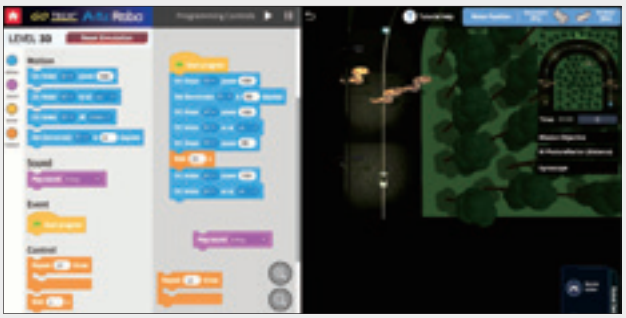
GoTechUp: ArtecRobo is a virtual robotics platform which allows you to learn robotics in your web browser anywhere and at any time.

Gain the same esssential programming skills as you would with ArtecRobo hardware.

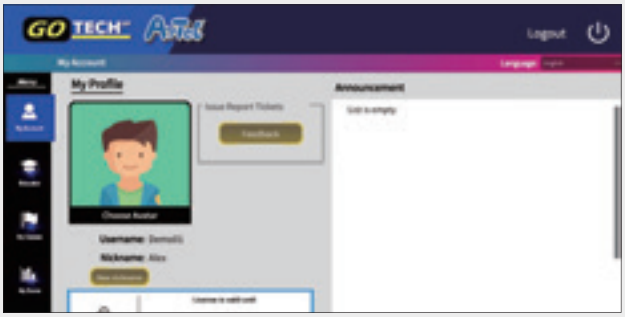


Learn the basics of thinking like a programmer using a wealth of content which takes you one step at a time.

Stay motivated as you learn by checking your performance in every level.



Program using a beginner-friendly interface perfect for users already familiar with ArtecRobo.



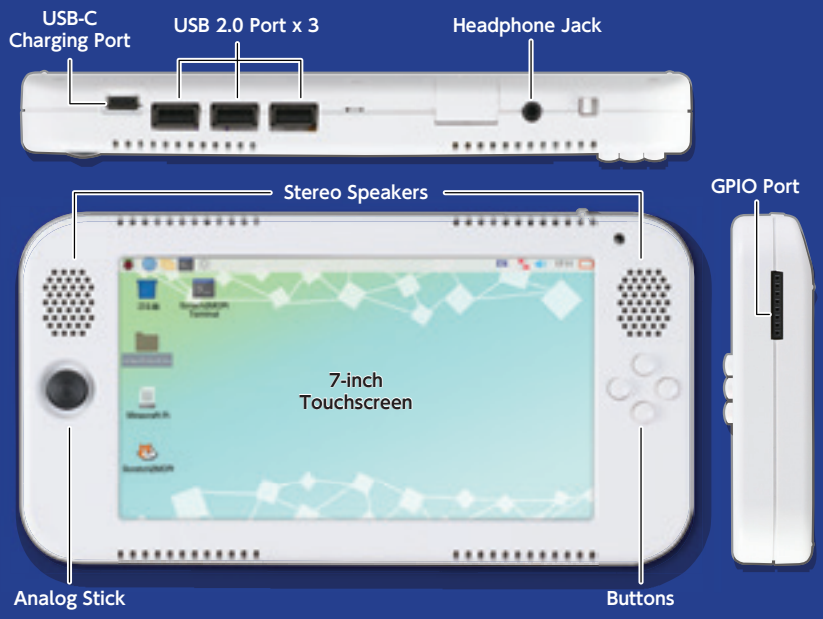
Multilingual support for English, Japanese, Chinese, French, Spanish and Portuguese.

Artec pi one

NEW

An intuitive and portable computer made for learning and fun!

Hardware #040640

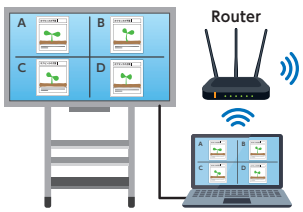


Raspberry Pi Compute Module 3+ Lite

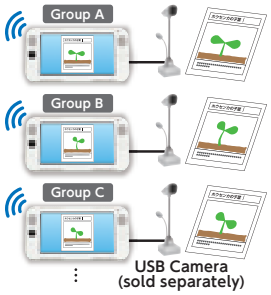
The Artec Pi One is specially designed for ICT education, allowing for expanded interactive learning simply by connecting the ICT device of your choice.

Engage in collaborative learning, study content in every subject, and program games, robots and more.

Collaborate



Share screens over school networks

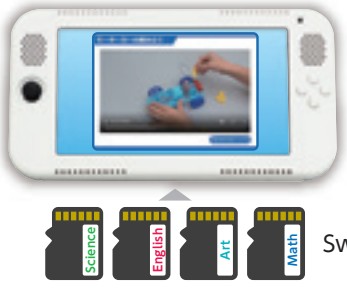


USB Camera (sold separately)

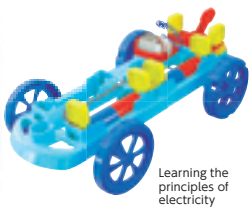
Observe

Capture and edit photos and videos

Learn



Swap microSD cards for each subject



Explore

Compact for easy transport

Artec Logger

NEW

#093182

A wireless data logger for fun, easy, and real scientific experiments!

Supports

Windows / Mac OS X
Android / iOS / Chrome OS

Wireless

Connect wirelessly to your PC or tablet and view live graphs of your data.

Compact

Compact enough to fit into or on top of scientific instruments and equipment.

Dual Mode

Check your measurements in real time using Live Mode or log experiment data in Logging Mode.

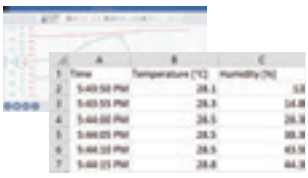
Multilogging

Connect up to three sensors to chart the relationship between different phenomena.

Live Capture

Overlay graphs with live footage of your experiment.

Simple Export



Save your graphs as an image or your data as a convenient, Excel-friendly CSV file.

Sensors and Experiments

#093184

Observe and study photosynthesis, respiration, combustion, heat reactions, and more!

#093186

Observe electromagnetic induction and study fundamental principles of electricity like Faraday's law!

#093183

Experiment with pressure, humidity, and temperature to log daily weather and observe changes in climate!

#093187

Generate electrical power to study the principles of electricity like Ohm's law and more!

#093185

Observe the changing states of water, experiment with temperature changes in water and ethanol, and more!

#082544

Connect up to three sensors to chart the relationship between different phenomena!

ArTeC® Robo 2.0

A new versatile and easy-to-use platform for building everything from simple robots to network systems!

Built-in Bluetooth & Wi-Fi

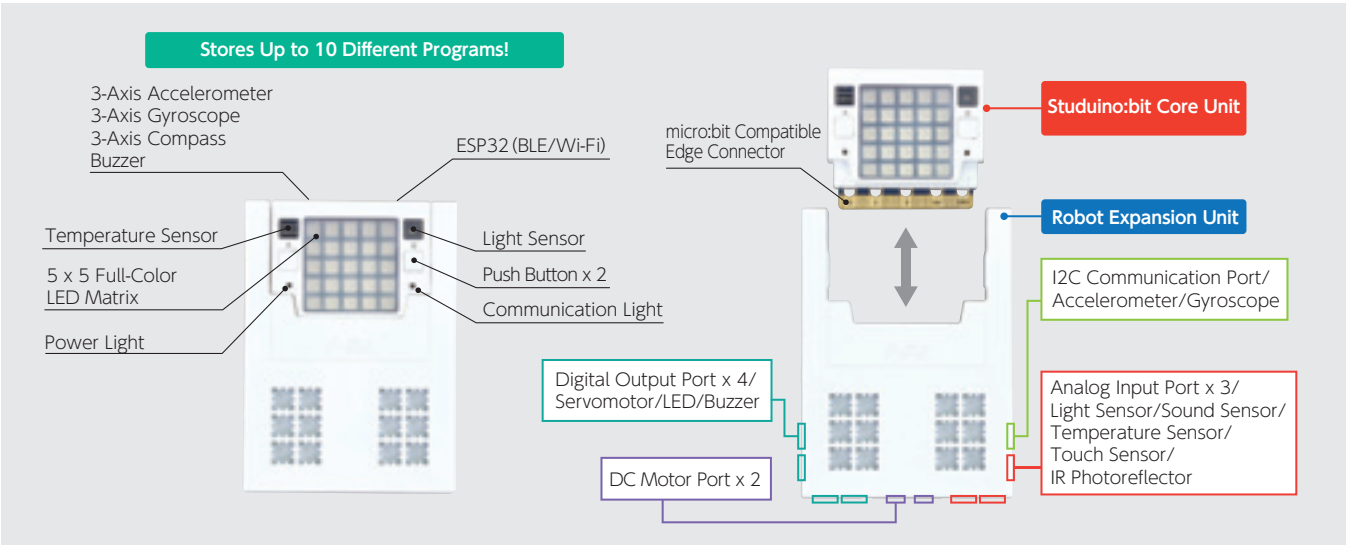
Multiple OS Support
Windows/Mac
Android/iOS/ChromeOS

No USB Device Drivers Required

★ Compatible with default drivers on Windows 10 and Mac OS. Additional driver installation will be necessary on Windows 7/8.1.

Take a Look at the ArTeC® Robo 2.0 Hardware!

Now with seven different sensors, 25 full-color LEDs, a buzzer, and Bluetooth/ Wi-Fi support all built in!



Studuino:bit Core Unit

Size	60 x 60 x 25 mm (in case)
USB Connector	microB
Wi-Fi	802.11b/g/n
Bluetooth	Classic, BLE4.2 (dual mode)
SoC	ESP32
Flash Memory	8 MB
SRAM	520 KB
PSRAM	8 MB
Clock Speed	240 MHz
Operating Voltage	3.3 V
Communication Protocol	Windows/Mac Equipped with USB Serial Converter IC ★ Device drivers support Windows 10 or later, and Mac. iPad/Android Tablets/Chromebook BLE communications
Parts	5 x 5 full-color LED matrix, buzzer, 2 x push buttons, light sensor, temperature sensor, 3-axis accelerometer, 3-axis gyroscope, 3-axis compass
Power Supply	USB, 3 x AA/R6 batteries (Use only alkaline batteries.)

Robot Expansion Unit

Size	80 x 110 x 25 mm (in case)	
Compatible Parts	Servomotor, LED, Buzzer	Max. 4 parts
	Light Sensor, IR Photoreflector, Sound Sensor, Touch Sensor, Temperature Sensor	Max. 3 parts
	Accelerometer/Gyroscope	1 part
Power Supply	USB, 3 x AA/R6 batteries (Use only alkaline batteries.)	

System Requirements

● Software Compatibility
Windows (7/8.1/10/11)/Mac OS X 10.6 or later/iOS11 or later/ Android5.0 or later/Chrome OS/Raspberry Pi OS

● System Requirements
Windows: CPU: Core2 Duo (E6700) or higher (or equivalent)
Memory: 2GB or more, USB 2.0 port
・Mac: Minimum required by OS.
・iOS: iPad with minimum required by OS. (Not supported on iPhone or iPadmini)
・Android: Minimum required by initial installation of the OS, screen size of 10 in. or more. (*Not guaranteed to work with all Android devices.)
・Chromebook: Model released 2016 or later, support for Android applications and Bluetooth 4.0.

Start Programming Right Away, No Assembly Required!

The Studuino:bit Core Unit comes with built-in sensors, full-color LEDs, and a buzzer, all ready to program without any need to spend precious class time on settings or assembly!
You can also add blocks and extra parts to build robots!


Build a model traffic light with just the Core Unit's LED display, buzzer, and sensors!

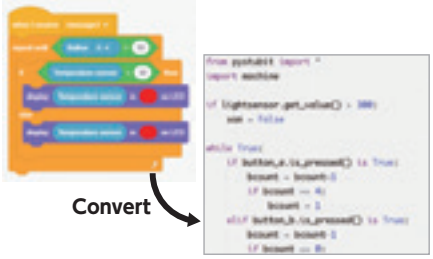

Add blocks and robot parts to make more robots!

Visual Programming Software Based on Scratch 3.0

Bluetooth communications allow you to program with iOS, Android, and Chrome OS in addition to Windows and Mac!

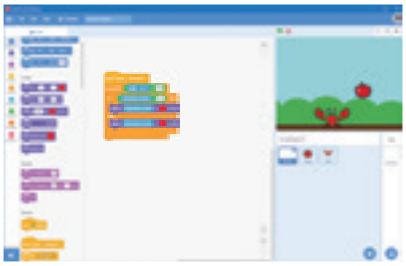
★ Bluetooth not supported on the Windows and Mac versions of the software.
★ A customized version of MIT MediaLab's own Scratch crafted specifically for ArtecRobo 2.0. With a wealth of blocks representing actual programming syntax, using this programming environment is the next best thing to actually working in C.

Convert to Python



The programs you make can be converted into Python programming language!

Access Digital Content



Make robots and systems that use digital contents and hardware together, like a robot that moves along with on-screen animations and sound, or game characters that move in response to a sensor's readings.

Tutorials Included

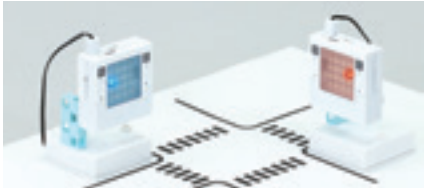
Learn all the basics you need to start programming your robots through the on-screen software tutorial!

★ Software is subject to change at any time.

Wi-Fi Compatibility Allows All-New Experiments!

Now you can construct network systems using Wi-Fi communications between devices!

Interconnecting Devices



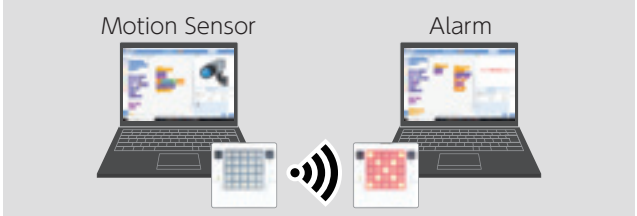

ArtecRobo 2.0 lets you build complex systems that use multiple devices at once by connecting them with wireless communications. Don't stop at making one traffic signal, make a whole network of coordinated signals and cars that stop for red lights automatically!

Building a Multi-Device System

Chat Systems

Learn About
Using inter-device communications to make programs that can send messages and connect multiple computers.

Security Systems



Learn About
Using messaging systems to make an alarm sound when your sensors detect an intruder, and learn about the Internet of Things!

Seamless Progress Through Every Level of Education

ArtecRobo 2.0 can help teach programming to students at any level of schooling, and using the same tools through each level of study lets them focus on learning new programming concepts instead of how to use new devices and software.

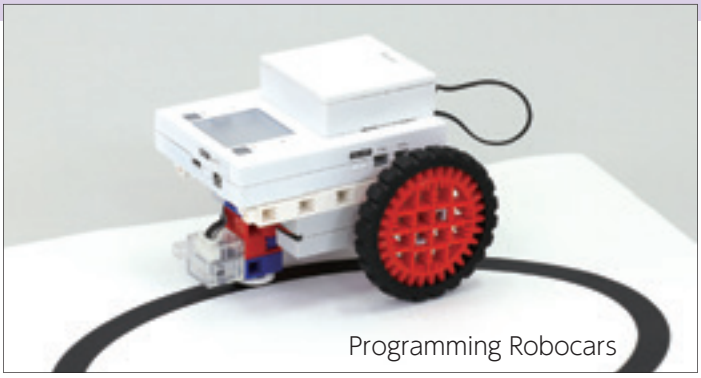
Primary Schools

- Drawing shapes with Scratch (Math)
- Making robots move (General Education)

A Model Traffic Signal (General Education)

Junior High Schools

- Controlling robots with sensors
- Problem-solving through programming
- Using networks



Programming Robocars

Program a Messaging App (Using Networks)

High Schools

- Building network systems
- Learning how web services work
- Learning text-based programming

Building network systems

Learning text-based programming

Make IoT System Models with ArtecRobo 2.0

ArtecRobo 2.0 can transmit data over the internet, sending it in emails or displaying it in browsers. You can also use this connection to control ArtecRobo over the internet with your browser! This makes it easy to build model IoT systems in ArtecRobo 2.0.

Planning and Development assisted by
Kazuo Tenra,
Specially-Appointed Professor
at Tokyo Gakugei University

★ Currently internet-enabled ArtecRobo 2.0 projects like these can only be programmed using Python.

EX.1 An Elder Care System

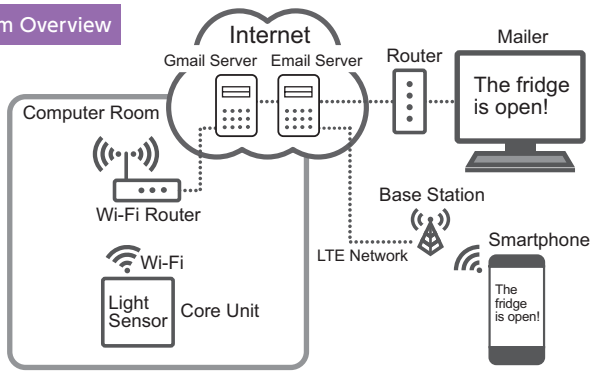
This system assists seniors living alone by using a Light Sensor to detect when their refrigerator door is left open and emailing their smartphone to let them know!

Model Ex.

Refrigerator door closed...

Detects light when it's opened!

System Overview



Program Ex.

Using the pystubit_iot module keeps this code short!

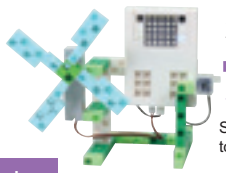
```
from pystubit_iot import *
import time
# Wi-Fi settings (SSID/password)
wifi_ config(ssid='xxx', pwd='xxx')
# Email server settings (Username/password)
setup_config(username='xxx', password='xxx')

# Connect to WiFi
res = wifi_connect(trytime=5)

# Initial setup
threshold = 500  # Brightness threshold value
prev_lv = lightsensor.get_value()

# Start detection
while True:
  # Find changes in light
  lv = lightsensor/get_value()          # Presence brightness
  diff = lv - prev_lv                   # Find change
  prev_lv = lv                          # Save current brightness

  # If change exceeds threshold
  if diff > threshold:
    # Send Email
    sendmail(
            'xxx',                      # Send to
            'Change detected'           # Email subject
            'The fridge is open')       # Email body
  time.sleep(1)
```

Students can construct this system inside a school computer room with a wired LAN network, or elsewhere by using an LTE Wi-Fi router or smartphone tethering in place of the Wi-Fi router.

EX.2 A Greenhouse Temperature Control System

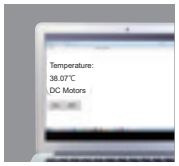
This system transmits information about your greenhouse's temperature over a network so you can view it in a web browser, and even adjust the temperature remotely!

Model Ex.



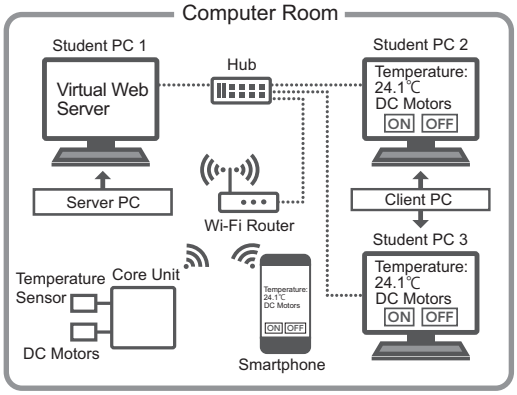
Sensors detect the temperature

Sends commands to the motors



Online Control Panel

System Overview



Program Ex.

Using the pystubit_iot module keeps this code short!

```
from pystubit_iot import *
from pystatchrebo2.parts import*
import time

# Wi-Fi settings (SSID/password)
wifi_config(ssid='xxx', pwd='xxx')

# Connect to WiFi
res = wifi_connect(trytime=5)

url = 'http://xxx/sensor.py'          # Sending the temperature

dcm = DCMotor('M1')
dcm.power(255)

response = None
while True:
    time.sleep(1)

    # Find temperature
    sv = temperature.get_celsius()

    # send temp. to web server
    response = get_request(url, {'param' : str(sv)})

    # Get DC Motor ON/OFF command from web server
    if str(response.text.splitlines()[0]) == 'ON':
        dcm.cw()          # DC Motor ON
    else:
        dcm.brake()       # DC Motor OFF
```

This system can be set up outside a networked computer room by replacing the virtual web server PC with an online web server, the other PCs with smartphones or similar devices, and the Wi-Fi router with an LTE Wi-Fi router or smartphone tethering.

★ The IoT system models above are currently under development. Please contact us for further information.

CLASSROOM LEARNING

ArtecRobo 2.0 Python Edition NEW

Ages 12+

Windows & Mac OS X

A low-cost introduction to Python programming.

Includes a detailed teacher's manual

#095030 Simple Set #095021 Extended Edition

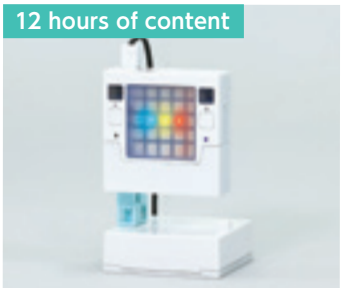
With over 50 hours of engaging programming and robotics content, ArtecRobo 2.0 Python Edition allows you to take full advantage of the ArtecRobo 2.0 platform. By programming a full range of built-in and external parts, you can create everything from self-driving cars to advanced wireless networks and servers.

Learn About

Programming Basics: LEDs and Motors

Programming LEDs

12 hours of content

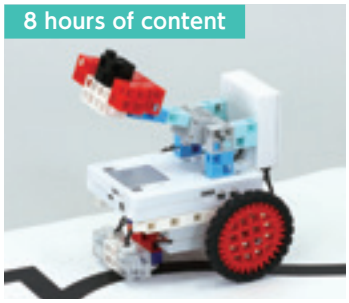


Learn programming basics like sequences, repeats, and conditions to recreate a variety of traffic signals, from pedestrian signals to push-button signals for high traffic roads.

Hands-On Programming: Automating Industry

Automated Deliveries

8 hours of content

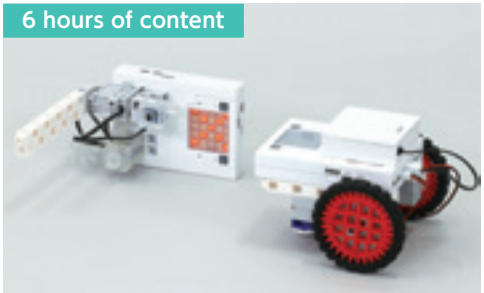


Apply concepts of measurement and control and take on the challenge of making an automated delivery system which can transport blocks to exact locations on the course.

Advanced Programming: Networking Computers

Electronic Toll Collection

6 hours of content



Use inter-device connectivity to build complex systems, like networks of traffic lights or electronic toll collection systems which help manage the flow of traffic and smoothly navigate highways.

★ Advanced programming projects require two or more kits.

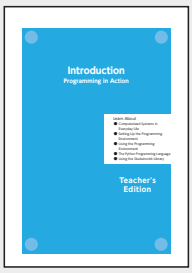
With 14 projects to offer, ArtecRobo 2.0 Python Edition offers a range of challenging and fun exercises, giving students knowledge that they can both observe and apply in the real world.

CLASSROOM LEARNING

Learn Python robotics with up to 51 hours of lessons.

Programming in Action

★ Sold separately.



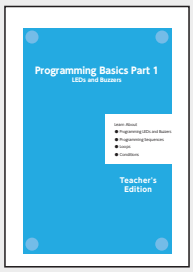
Familiarize yourself with the fields of programming and robotics and get an overview of the ArtecRobo 2.0 platform and the Python programming language, including concepts like libraries.

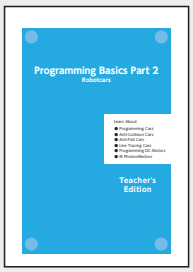
#095030 Simple Set Python Edition
(covers Programming Basics lessons)

#095021 Python Set Extended Edition
(covers Programming Basics, Hands-On, and Advanced Programming lessons)

Programming Basics

Two booklets with up to 12 hours of lessons

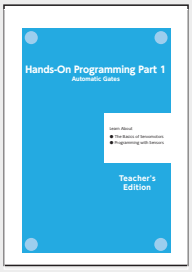


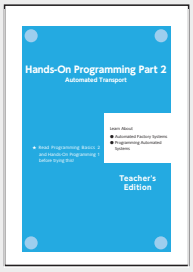


Learn programming fundamentals like sequences, loops, and conditions and use them to program robotic parts including LEDs, Buzzers, and IR Photoreflectors as well as actuators like DC Motors and Servomotors.

Hands-On Programming

Two booklets with up to 8 hours of lessons

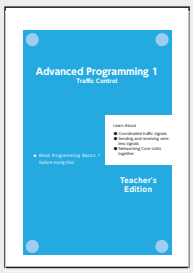


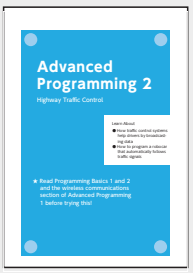


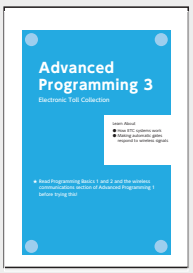
Gain a more complex understanding of programming by tackling complex topics such as variables and integrating them with concepts learned in the previous textbooks. These lessons focus on student-centered, problem-based learning, requiring students to use their programming knowledge to solve real world challenges.

Advanced Programming

Three booklets with up to 6 hours of lessons







These advanced projects delve deeper into problem-based learning. Students will use Python to manage the flow of traffic, design intelligent transport systems, and develop an electronic toll system for highways.

CONTINUING EDUCATION

Python Programming for Adults

NEW

#196595
ArtecRobo2.0 Python Course for Adults

Windows & Mac OS X

Internet Required

Speechi

A beginner-level Python programming course for adults.

Take your first step in programming with no background knowledge required.
This one-year course uses ArtecRobo 2.0 to help you learn and deepen your understanding of modern tech concepts like cloud computing, big data, and deep learning.

CONTINUING EDUCATION

It's never too late to learn real robotics and programming.

Have fun learning real programming in Python as you use ArtecRobo 2.0 to connect to the Internet and work through multiple robotics projects.

Work with blocks and convert them into Python in the studuino:bit Software as well as get experience with Mu Editor, a professional-level Python editor.

1. The Smart Parking Lot
Learn how to show the capacity of a parking lot.
Uses: Core Unit, LEDs, IR Photoreflector

2. A Cloud of Fireflies
Sync multiple Core Units in a network.
Uses: Core Unit (Wi-Fi, LED Display)

3. Like a Sunflower
Make a robot which detects the Sun like a sunflower.
Uses: Light Sensors, Servomotors

4. Cleaning with Robots
Build a robot which can clean up debris.
Uses: IR Photoreflectors, LEDs, DC Motors

5. Balancing Robots
Use accelerometers to create balance.
Uses: Core Unit (accelerometer), DC Motors

6. Camera Stabilizers
Make a platform that can remain level.
Uses: Servomotors, Accelerometers

7. Robotic Arms
Use an algorithm to make your robot move like a walrus.
Uses: Servomotors, IR Photoreflectors, LEDs

8. Gesture Recognition
Make a device which recognizes gestures.
Uses: Core Unit (Wi-Fi, LED Display), Servomotors, LEDs

9. IoT Alarms
Make an Internet-enabled door alarm.
Uses: Core Unit (Wi-Fi, LED Display), Light Sensors, LEDs

10. Driving with AI
Make a robot which learns as it drives.
Uses: Servomotors, IR Photoreflectors, Ultrasonic Sensors

11. Sorting with AI
Learn and use image recognition to sort blocks.
Uses: Servomotors, document cameras

Rather than just theory, these 11 practical projects teach you about the programs in the world around you as well as how they work.

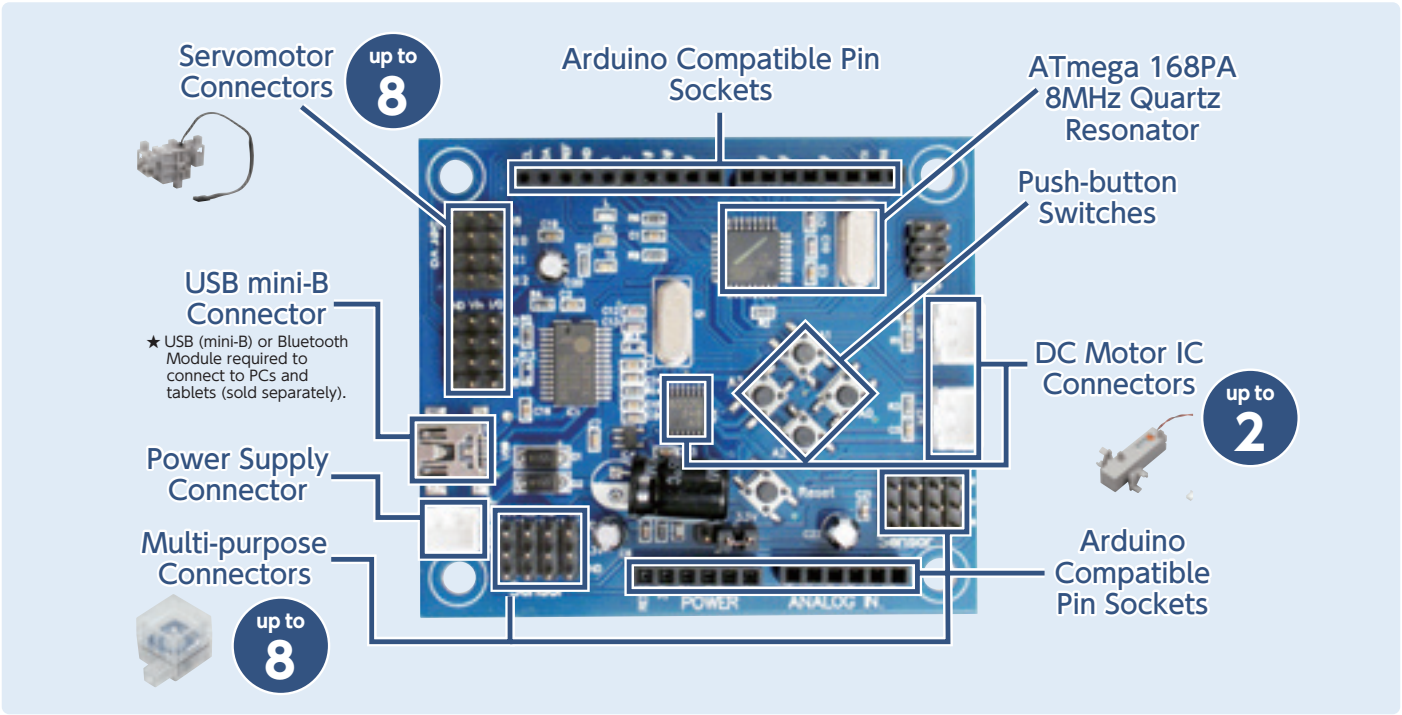
Python Programming for Adults includes not only a full range of student textbooks, but teacher's guides to help you manage your classroom.

ROBOT ⚙ TECHNOLOGY #151610

Studuino®

An Arduino-based board designed for programming education.

Studuino uses Artec Blocks™ in combination with plug-and-play parts as well as free, easy-to-use software to make it easy to build and program anything you like.



Designed for Robots

Onboard ports for Servomotors, DC Motors, LEDs, Buzzers, and sensors allow you to build advanced robots without the need for breadboards and complex wiring.

Arduino Compatible

More advanced programmers can easily convert their programs into Arduino, an approachable, easy-to-understand programming language based on C.

MCU	ATmega168PA
Digital I/O Pins	14 DC Motor Drivers: D2, D3, D4, D5, D7, D8, Servomotor Drivers: D2, D4, D7, D8, D9, D10, D11, D12
Analog Input Pins	8 Push-button Switches: A0, A1, A2, A3 Sensors: A0, A1, A2, A3, A4, A5, A6, and A7
Clock Speed	8 MHz
Operating Voltage	3.3 V
DC Motor Driver IC	TB6552FNG (max. 1 A)
USB Serial IC	PL2303TA
Push-button Switches	A0, A1, A2, A3

Supports
Windows / Mac OS X / iOS / iPadOS
Chrome OS / Android / Raspberry Pi OS

★ Visit the official Studuino website for more details on compatibility.
https://www.artec-kk.co.jp/studuino/en/

■ Dimensions: Studuino main body 70 x 60 x 10 mm
■ Packaging: Cardboard box
★ USB (mini-B) or Bluetooth connection required.
★ Products and information are subject to change.

Program at Any Level

Studuino offers a range of programming environments suited to any skill level, allowing you to start your programming journey the right way.

Level 1

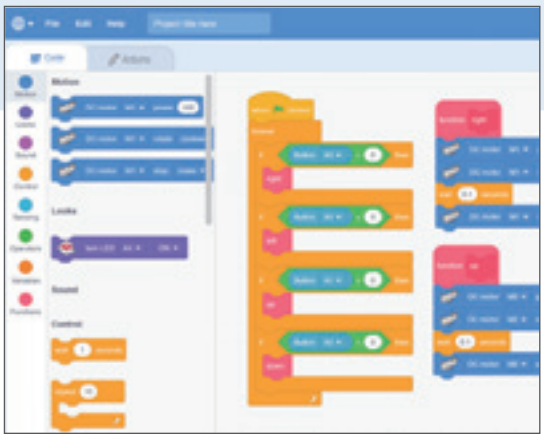
Icon Programming

Made especially for young learners, the Studuino Icon Programming Environment all uses colorful, easy-to-understand icons to get kids thinking sequentially as they make real programs.

Level 2

Block Programming

Based on MIT Media Lab's Scratch 3.0 programming environment, the Block Programming Environment uses real programming syntax to teach concepts like variables, lists, and operators.



Level 3

Real Code

Convert icon and block programs and program in Arduino IDE using Arduino, an easy-to-understand programming language based on C and used by real software engineers around the world.

★ Tablets only support the Scratch 3.0 Block Programming Environment.

Find out more at:
https://www.artec-kk.co.jp/studuino/en/

TOPICS 01 ArtecRobo Testimonials: USA

In Primary Schools

"Sometimes it helps to have a visual."

Mater Beach Academy in Miami
Pablo Martinez, Instructor

ArtecRobo is changing the way students in Florida interact and learn about technology, robotics, and programming. The structured curriculum and detailed instructions make every part of the learning process more straightforward, helping you as a teacher to better organize your time and allowing students to more easily grasp the concepts being taught.

About My Class

I use ArtecRobo to introduce my primary and junior high school students to robotics and programming, including the mechanics behind each robot and how robots are used in the real world.

Why ArtecRobo?

Definitely the curriculum. It's well structured, and the detailed instructions make every part of the learning process more straightforward.

My Experience with ArtecRobo

ArtecRobo helps me organize my classroom time that much better, and it allows students to grasp the concepts being taught incredibly easily.

Strong Points

Despite ArtecRobo being simple to pick up, it teaches kids real-world engineering concepts in multiple fields without seeming like a chore

My Recommendation

ArtecRobo is changing the way students here interact with and learn about technology, robotics, and programming. It's an invaluable part of my classroom now.

Student Response

The blocks make each model easy to build, offering a lot of possibilities to create and modify new structures, which is something the kids always love to do. Sometimes it helps to have a visual instead of just words.

TOPICS 02 ArtecRobo Testimonials: Japan

In High Schools

Quality Textbooks, Top-Class Programming Tools

Hinodegakuen Junior and
Senior High School
Takeyoshi Noriyuki, Instructor

About My Class

I used ArtecRobo so my students could learn about bidirectional communications hands on in a unit on communication networks for our school's 11th grade Information and Society class. We divided the class into three stages: using IP addresses to set up a network, making a messaging system, and making a security system using motion sensing and alarms, and linked it to our previous programming studies (after using Dolittle and Algo-Logic). We had groups of four students (two on the server side, two on client side) with two ArtecRobo units per group.

Studying in groups of four

Why ArtecRobo?

We have a lot of ways for students to study programming in the context of content creation, but I've long felt we needed to give them methods to build and test systems for themselves. I had already used ArtecRobo in 10-block elective Information Science class, so I was sure we could use it in a required class as well and decided to use it for the networking unit. We're also considering what kind of problems we want to set up for next semester's IT II Information Systems and Programming class.

Making a chat system

My Experience with ArtecRobo

The Scratch-based development environment allowed me to focus on teaching the programming and how the mechanisms involved worked. I also appreciate that students could divide the assembly and programming work between them and cooperate. The students really got into it too, I heard cheering from every team when they got their devices sending messages!

I think one of the best things about ArtecRobo compared to other programming tools is how much freedom it allows. Whenever a group of students finished early they could spend their time customizing their project, changing the buzzer sounds or LED patterns or the like.

Strong Points

- Teaches real problem-solving skills (The high degree of freedom means the project has many possible failure points. Figuring out the source of a problem from many possible points like this is an important part of real-world problem-solving.)

- Lets students get a real understanding of IT concepts like networks and IoT (I believe computer science is best taught through a combination of classroom study and trying things out for yourself.)

- Good for learning not just computer science, but group work as well

My Recommendation

I think these are top-class programming tools, and the textbooks are excellent quality too. Using rental kits makes it affordable to get started, and they stay up-to-date.

The tools are very flexible, even the teachers will want to test out what they can do with them. Some of our students even started making new parts with the school's 3D printer! Projects like we did can be done in a single block of free time so I especially recommend it to teachers who are new to programming or short on class time.

Student Response

A lot of students said they had fun with the project and wanted try more. I think it was especially good to have the teams working together (our senior classes have some trouble working together outside of their groups). Next I'd like to try incorporating this set-up into some of the lessons from the textbook. We did the project in a single class block this time, but I think using two so students have time to use blocks to build their alarm systems would have been better (though it's not quite related to the main subject I think it would be a good design experience).

Making a security system

In partnership with

WOW Art Learning® Nurturing Creative Confidence

Artec® Innovator Academy
Early Years: Robots & Programming

S T E A M Workshop
SCIENCE TECHNOLOGY ENGINEERING ART MATHEMATIC

Short term workshops integrating robotics, coding and art developed for children in K-Y.3.

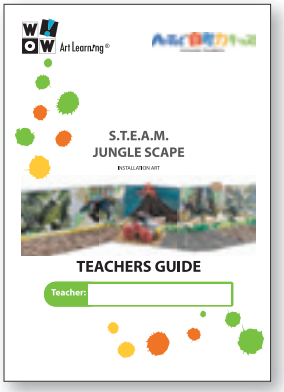
#091636

Jungle Trek

Art
Using Mixed Media techniques to create different textures (terrains), colors and lines. Children shall also strengthen their eye hand coordination and manual dexterity of their fingers and hands as they engage in these different art techniques.

Robotics
Engage in concrete learning to explore how four-wheel drive vehicles can drive over different terrains

Coding
Learn to program a sequence of movements, using investigative methods (trial and error/ experimentation) in timing and direction to successfully complete the trek.

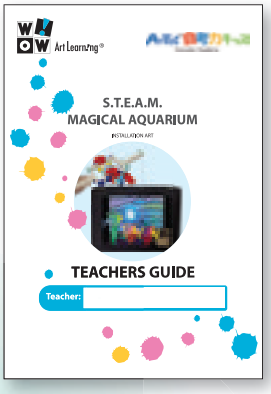


Classroom kit

Take Home kit

#091635

The Magical Aquarium



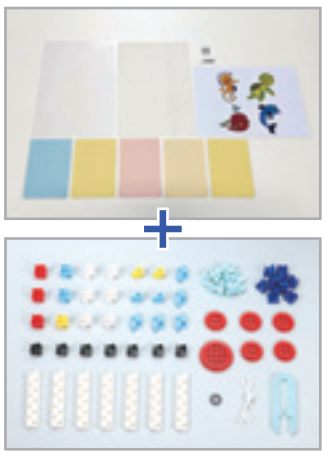
Art
Explore Mixed Media techniques to create 3D Installation Art. Children shall exercise their fine motor skills through the different art techniques.

Robotics
Engage in concrete learning to construct a fishing rod, using a reel mechanism to wind up the fishing line.

Coding
Learn to program the sound and lights to brighten the aquarium with coordinated music and lighting effects.

Classroom kit

Take Home kit

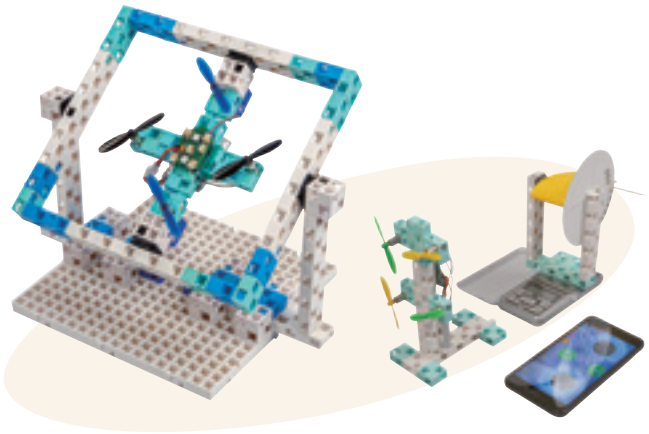


In partnership with

SCIENTIFIC ENTERTAINMENT

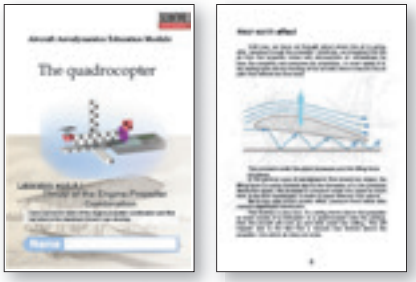
#196531

Programmable Drone Set



The Programmable Drone Set is an advanced interdisciplinary education set intended for high school learners and beyond.
It features a comprehensive curriculum combining programming, aerodynamics, and numerous other physics concepts.

Aerodynamics



Laboratory #1

Thrust of the Engine-Propeller Combination

Carry out bench tests of the engine-propeller combination and find out what is the maximum thrust it can develop.

Laboratory #2

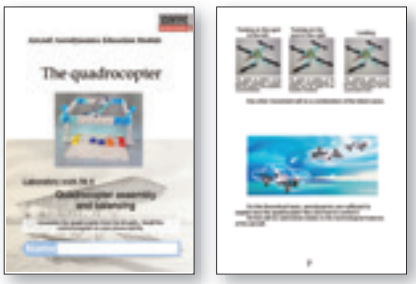
Battery Energy

Carry out bench tests on the battery and find out how long it can last until it is completely discharged and whether it is possible to extend its operating time.

Laboratory #3

Air Currents. Hot-Wire Anemometer.

Create a special device and see what air flows the propeller creates.

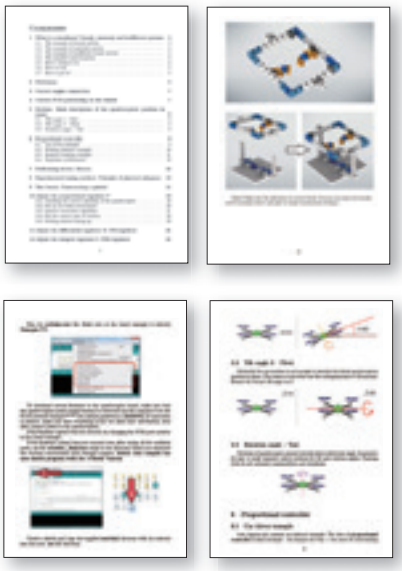


Laboratory #4

Quadrocopter Assembly and Balancing

Assemble the quadrocopter from the kit parts. Install the control program on your phone and fly.

Programming



Supplement

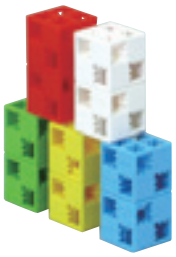
ArtecRobo Early Education Set

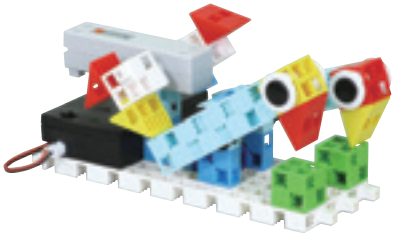
The Early Education Set is Artec's unique robotics and programming course for children in K-P3.

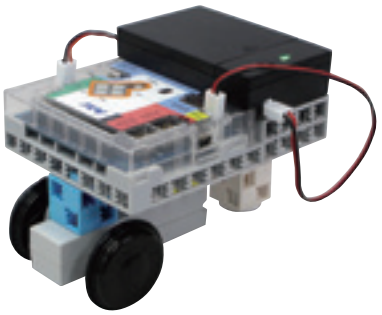
#091631

ArtecRobo Early Education Set

■ Package dimensions:
W 280 x H 160 x D 130 mm (11 x 6.3 x 5.1")
■ Materials: ABS
■ Weight: 900 g



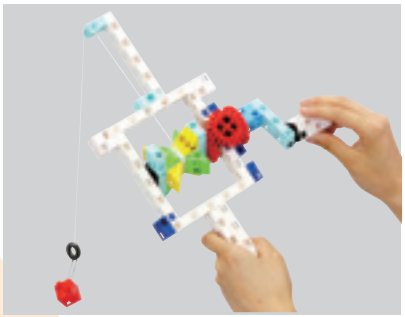




The curriculum consists of 2 interlinked components:

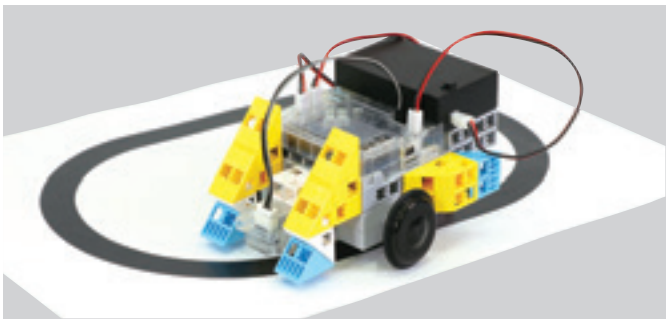
1. Robots (6 lessons)

- Build robots using blocks
- Enjoy learning about robots that use the basic principles of motors and mechanical constructions such as linkages, rack and pinions, and gears



2. Programming (6 lessons)

- Covers the basics of programming
  Utilizes the Icon Programming Environment developed specifically for younger children
- Learn how to program with using motors, LEDs, Buzzers, and IR Photoreflectors



Textbooks

Robots

Class 1 (2 lessons)

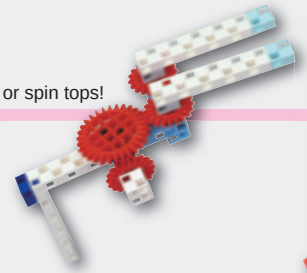
Moving on Wheels

Use a motor and wheels to make your very own car and motorcycle!

Class 2 (2 lessons)

Gaming with Gears

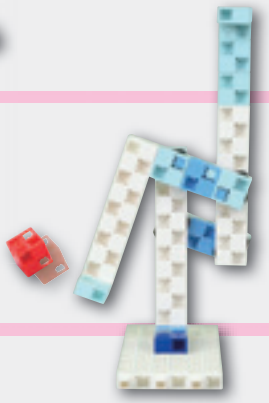
Use mechanisms made of gears to grab blocks or spin tops!



Class 3 (2 lessons)

Making Things Move

Learn how to transfer movement to make a woodpecker robot and launch blocks!

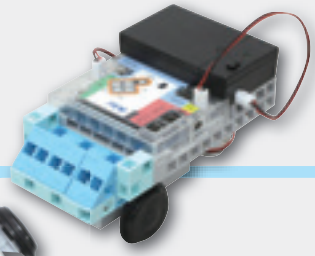


Programming

Class 1 (2 lessons)

Back and Forth

Use a computer and program your car to drive!



Class 2 (2 lessons)

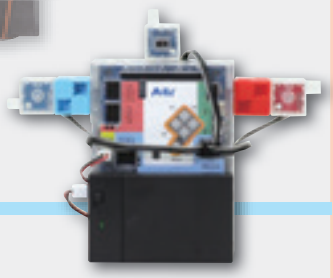
Left and Right

Use two DC Motors to make a car that turns left and right!

Class 3 (2 lessons)

Sound and Light

Use Buzzers and LEDs to program sound and light!



ArtecRobo Education Set

#077534

ArtecRobo Education Set

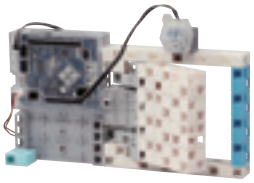
■ Package dimensions:
W 280 x H 160 x D 130 mm (11 x 6.3 x 5.1")
■ Materials: ABS
■ Weight: 459 g

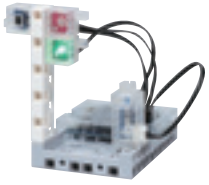
A kit designed for primary schools

Features

1. Learn the basics of programming with different sensors and actuators.
2. Textbooks for 16 class hours included!
3. Tutorial style step-by-step teacher's manual.

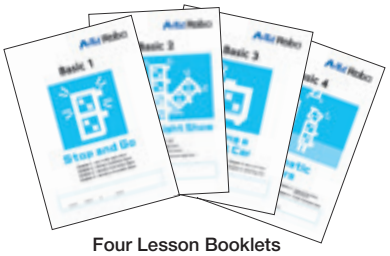
Easy to teach,
Easy to learn!





Basic Course 4 Booklets = 16 Class Hours!

Teacher's Manual



Four Lesson Booklets for Students

#091629

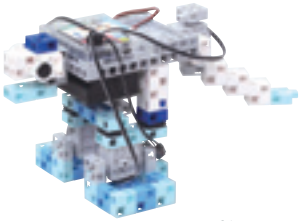
ArtecRobo Education Set Complete Edition

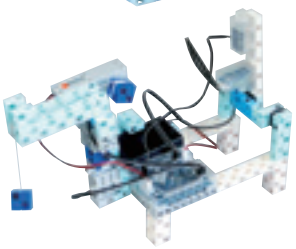
■ Package dimensions:
W 330 x H 210 x D 140 mm (13 x 8.3 x 5.5")
■ Materials: ABS
■ Weight: 1300 g

A kit designed for primary schools

Suitable for

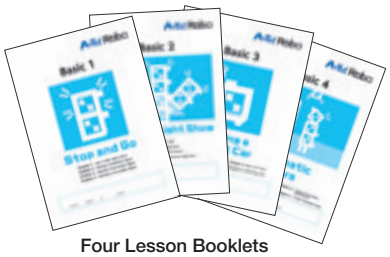
1. Schools wanting to expand their coding curriculum
2. Parents wanting to teach coding with robotics at home
3. Afterschool programs for coding and robotics
4. Coding and robotics courses for adults
5. Students who have already studied Scratch and want to go further with physical computing
6. Enrichment centers



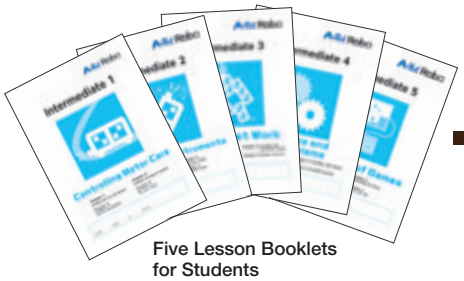


Basic Course 4 Booklets = 16 Class Hours!
Advanced Course 4 Booklets = 16 Class Hours!
Intermediate Course 5 Booklets = 20 Class Hours!

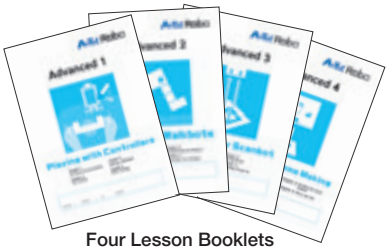
Teacher's Manual



Four Lesson Booklets for Students



Five Lesson Booklets for Students



Four Lesson Booklets for Students

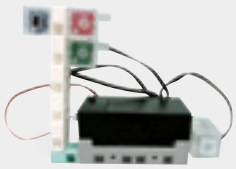
Textbooks

#077534 **Education Set**
(covers Basic Course)

#091629 **Education Set Complete Edition**
(covers Basic Course, Intermediate Course, Advanced Course)

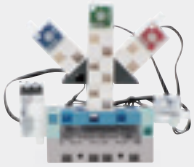
Basic Course 4 Booklets = 16 Class Hours!

Vol. 1 Stop and Go



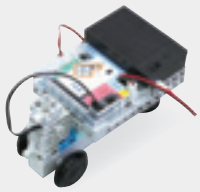
- How Traffic Signals Work
- Making a Pedestrian Signal
- Making a Push-button Signal
- Making an Accessible Signal

Vol. 2 Making a Light Show



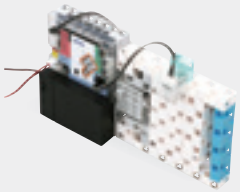
- A Town Full of Light
- Making Your Light Show
- A Light Show with Sensors
- Making Sound-powered Light Show

Vol. 3 Making a Robot Car



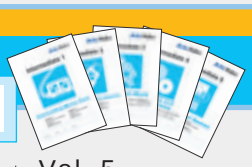
- Driving Safe
- Electric Cars with Motors
- How a Car Turns
- Self-driving Cars

Vol. 4 Automatic Doors



- All About Automatic Doors
- Building an Automatic Door
- Programming Doors with Sensors
- A Safer Automatic Door

Intermediate Course 5 Booklets = 20 Class Hours!



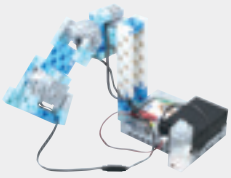
Vol. 1 Controlling Motor Cars

- Driving with Two DC Motors
- Self-Driving Systems
- Collision Avoidance Systems
- The Line Tracer

Vol. 2 Electronic Instruments

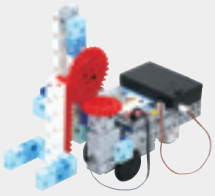
- Programming with Variables
- An Electric Music Box
- Making a Guitar
- A Better Guitar

Vol. 3 Robots at Work



- Three-Axis Arm Robots
- Controlling an Arm Robot
- Variables and Servomotor Angles
- Making Deliveries

Vol. 4 Machines and Mechanisms



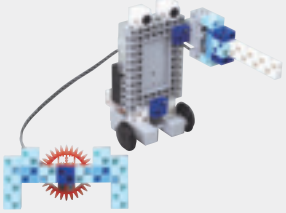
- Machine Elements
- Linkage Wipers
- Forklifts with Gears
- Forklift Control

Vol. 5 The World of Games

- Game Development and Character Mode
- Banana Catcher
- Expanding the Game
- Show and Tell

Advanced Course 4 Booklets = 16 Class Hours!

Vol. 1 Playing with Controllers

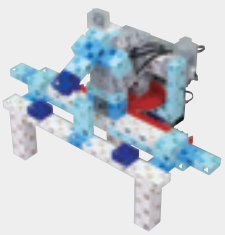


- All About Accelerometers
- Car Control
- Making a Battlebot
- Robot Dueling

Vol. 2 All About Walkbots

- Building a Walkbot
- The Bipedal Walkbot
- Programming the Walkbot
- Improving Your Walkbot

Vol. 3 The Factory Scanbot



- Building a Scanbot
- Improving Your Scanbot
- Sorting Blocks
- Counting Things Up

Vol. 4 Advanced Game Making

- Making a Vertical Shooter
- The Basics of the Game
- Building the Game System
- Show and Tell

#094927

ArtecRobo Sensor Light P.28 ➡

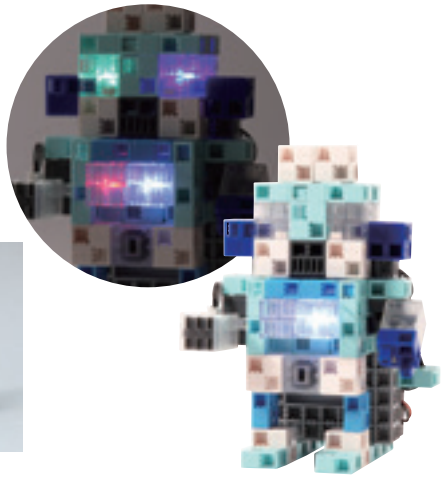
■ Dimensions: W 285 x H 167 x D 130 mm (11 x 6.6 x 5.1")
■ Materials: ABS, FR-4 ■ Weight: 714 g

70+ Pieces | Studuino | Buzzer | LED | Sound Sensor | Light Sensor | Touch Sensor

Requires battery (1.5V AA/LR6) ×3 (sold separately)

Features

- Program your Touch Sensor and make your robot respond with light and sound!
- Program light shows with your LEDs and play music with the Buzzer!
- Use the Touch Sensor to make a flashlight!



#094925

ArtecRobo Sensor Car P.29 ➡

■ Dimensions: W 285 x H 167 x D 130 mm (11 x 6.6 x 5.1")
■ Materials: ABS, FR-4 ■ Weight: 720 g

60+ Pieces | Studuino | DC Motor | Touch Sensor | Infrared Sensor

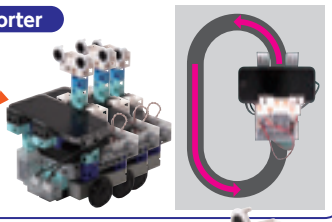
Requires battery (1.5V AA/LR6) ×3 (sold separately)

Features

- Use the Touch Sensors to detect obstacles!
- Infrared can be used to detect objects, too!
- Control your robot to make more advanced actions using two infrared sensors!

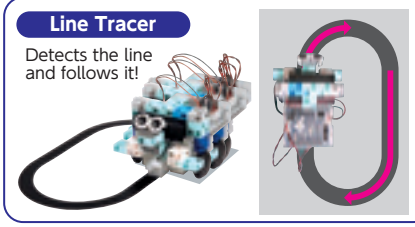
Transporter

Give it something to carry!



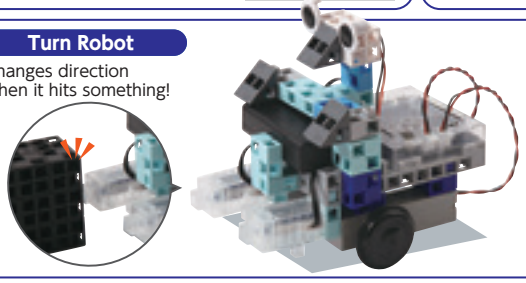
Line Tracer

Detects the line and follows it!



Turn Robot

Changes direction when it hits something!



#094928

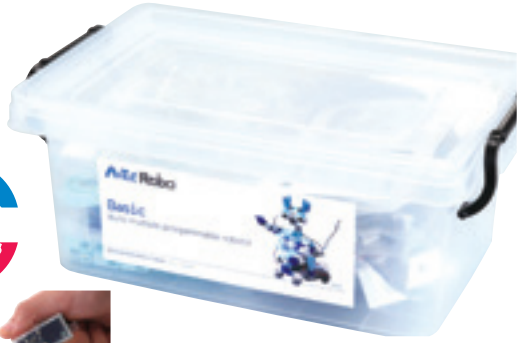
ArtecRobo Basic

P.30 ➡

■ Package dimensions:
W 340 x H 215 x H 140 mm
(13.4 x 8.5 x 5.5")
■ Materials: ABS, FR-4 ■ Weight: 1253 g

150+ Pieces | Studuino | Servomotor | DC Motor | Buzzer | LED
Sound Sensor | Light Sensor | Accelerometer | Infrared Sensor | Touch Sensor

Requires battery (1.5V AA/LR6) ×3 (sold separately)



Features

- Get a taste for ArtecRobo with every motor and sensor in the series!
- Mix and match them to make your very own robot!
- Use the Accelerometer to put the control of your robot in the palm of your hand!

Sensor Control Robot

Accelerometer

The car can run in all directions by using an Accelerometer.
When the Accelerometer is shaken violently, the robot will show surprise by raising its arms.

Doggy Robot

Infrared Sensor

When the IR Photoreflector under the chin detects a hand, the dog stops walking and shows affection.

#094929

ArtecRobo Advanced

P.31 ➡

AWARD WINNER!

■ Package dimensions:
W 340 x H 215 x H 140 mm
(13.4 x 8.5 x 5.5")
■ Materials: ABS, FR-4 ■ Weight: 1462 g

Features

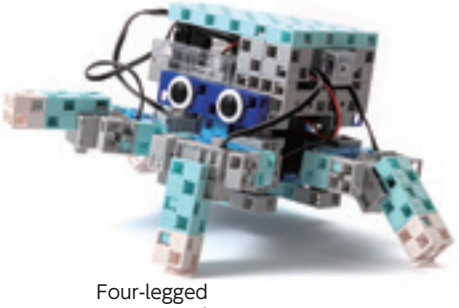
- This full-fledged kit contains every motor and sensor in the ArtecRobo series.
- Find free instructions on our website and build them all!
- Use the different sensors to make a robot which can grab the blocks it detects or one that dances along to a melody you've programmed yourself!

190+ Pieces | Studuino | Servomotor | DC Motor | Buzzer | LED
Sound Sensor | Light Sensor | Accelerometer | Infrared Sensor | Touch Sensor

Requires battery (1.5V AA/LR6) ×3 (sold separately)

Buzzer

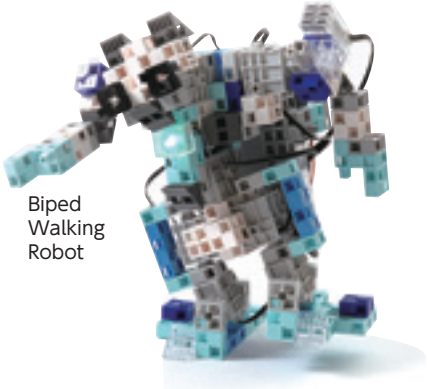
Watch your robot dance to the beat!



Four-legged Dancing Robot

Sound Sensor

Clap your hands and your robot will walk and swing its arms!



Biped Walking Robot

★ Board sticker included only in #094929.

Build Your Own Plant Factory

Program LEDs to make your own plant factory!

#094932

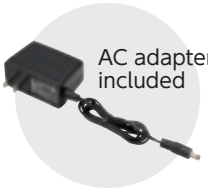
Build Your Own Plant Factory

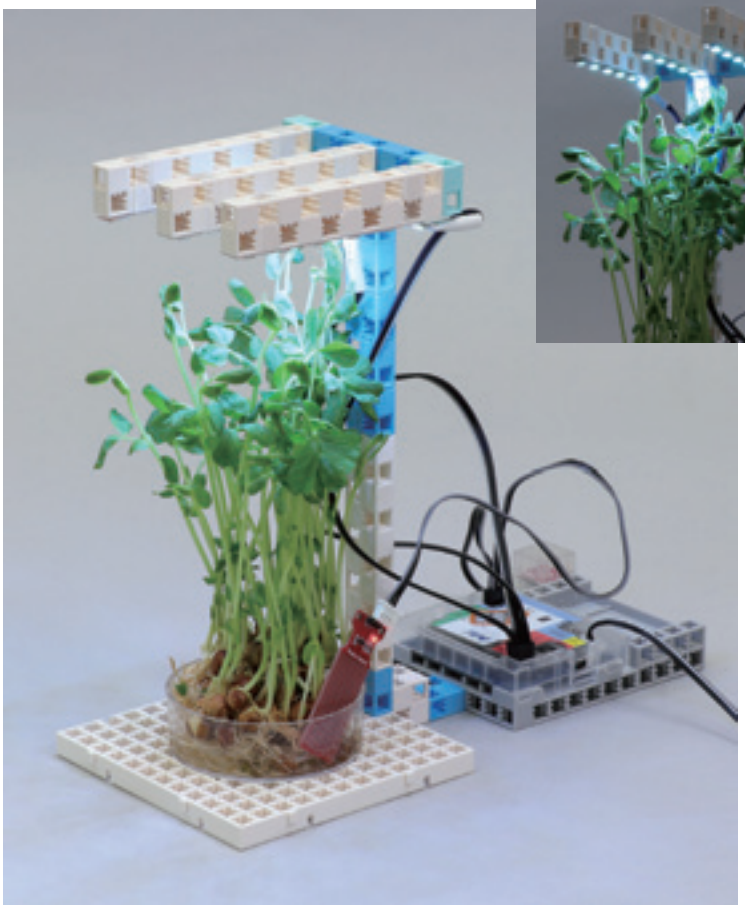
Requires battery (1.5V AA/LR6) ×3 (sold separately)

★ Make sure to use only alkaline batteries.

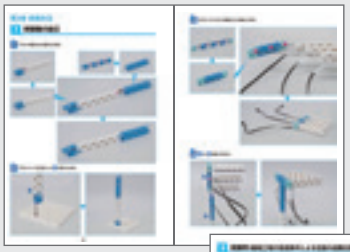
36 Page Teacher's Manual

■ Fully Assembled Dimensions: 234 x 120 x 230 mm
■ Materials: ABS, PVC

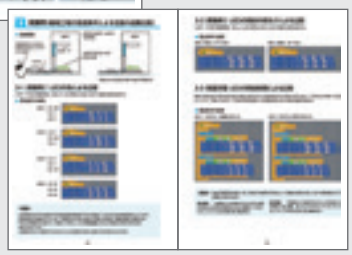




Includes Teacher's Manual (36 pages total)



*Japanese Textbook displayed. English version not yet finalized.



Edited by Kazuhiko Mitsukuri, Associate Professor at Nara University of Education, Faculty of Education, Technology Education

What is a Plant Factory?

A plant factory is a system that cultivates plants by controlling the environment they grow in, including light, temperature, humidity, CO_2 concentration, and airflow. These systems can produce consistent quality and quantity in the crops they grow.
With this kit, you can control the light your plants grow in by programming the brightness, color, and lighting cycle of the LED strips. Test out different settings and compare their results to determine the best lighting for your plants to grow in!

Programming Your LEDs is Easy!

Scratch-Based Block Programming Environment

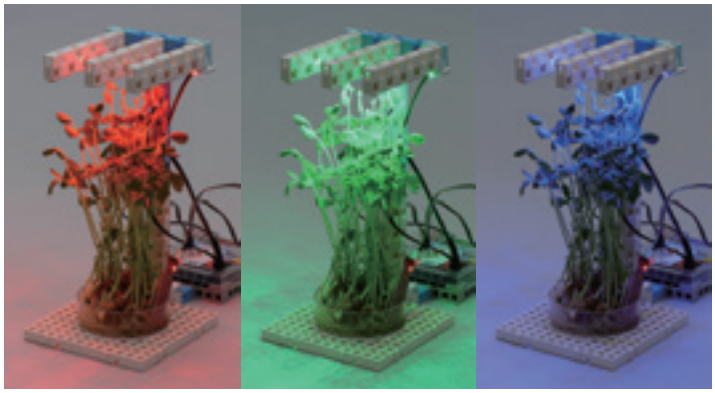
A customized version of MIT MediaLab's own Scratch crafted specifically for Studuino with a wealth of blocks representing actual programming syntax, using this programming environment is the next best thing to actually working in C.

Supported OS: Windows 10/8.1/7

Program the RGB levels of your LEDs to control their color and brightness!

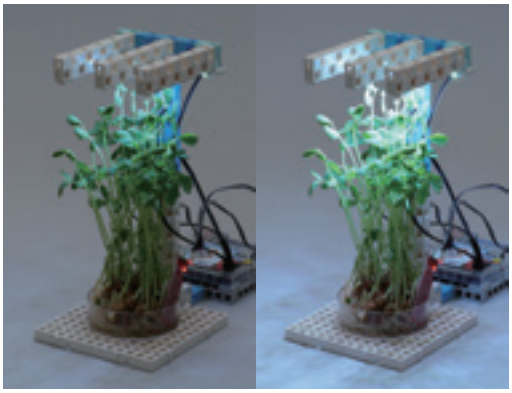
Experiment by Programming Different Growing Conditions!

Experiment 1 Comparing Colors



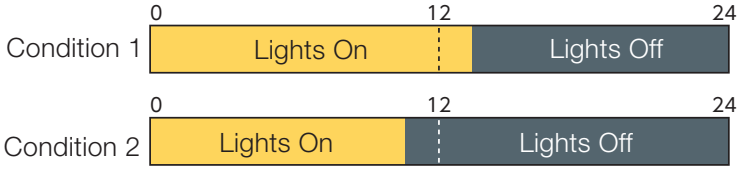
Find out which color of light is best for your plants

Experiment 2 Comparing Brightness

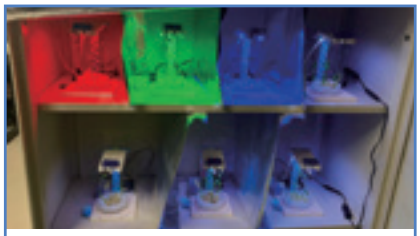


Find out how much light your plants need

Advanced Experiment: Comparing Lighting Cycles



Find the best cycle of light and dark for your plants



Experiment in Your Classroom

Use the included AC adapter to plug into your classroom's power outlet.

Detect When the Plants Need Water with a Water Level Sensor!

① Set up your Water Level Sensor.

② Program your computer to tell what level of water is too low

③ Light an LED to let you know when the water gets low!

AI Learning

Enter the World of Artificial Intelligence!

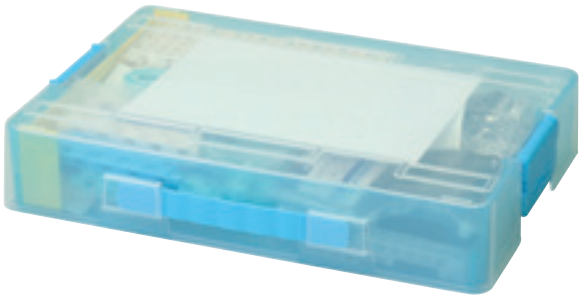
#093993

ArtecRobo AI Kit

Requires battery (1.5V AA/LR6) ×3 (sold separately)
★ Make sure to use only alkaline batteries.

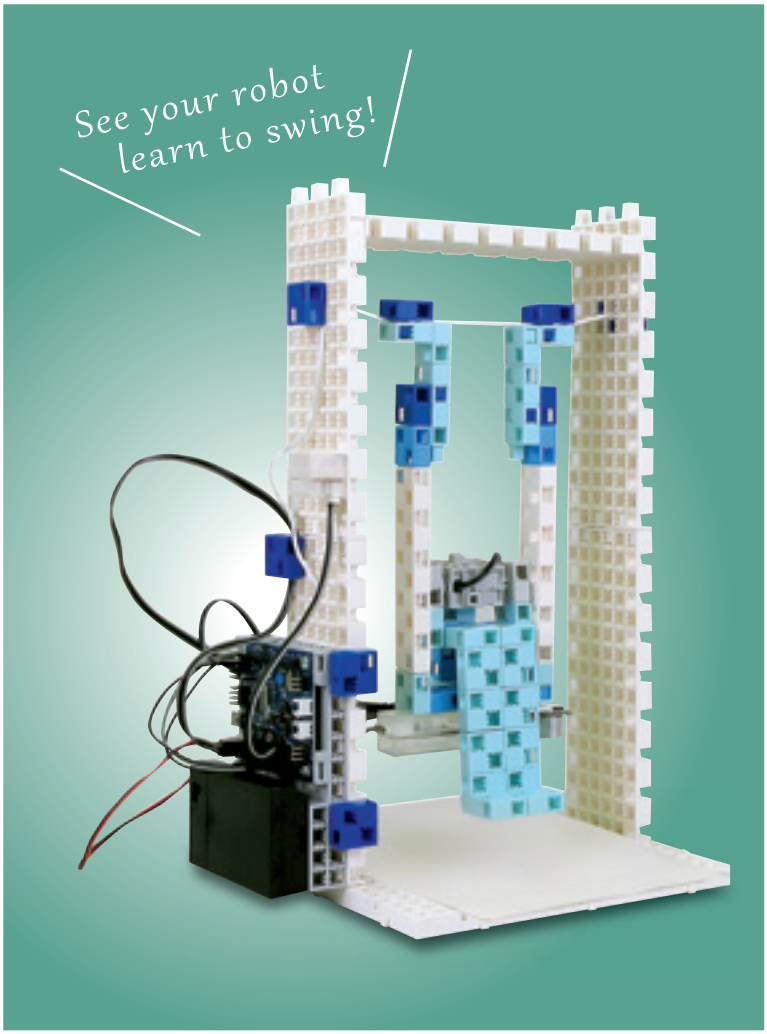
80 Page Teacher's Manual

■ Fully Assembled Dimensions: W 220 x H 340 x D 180 mm
■ Materials: ABS, PVC

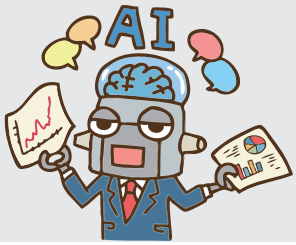


Features

With this kit, students can build a robot with an artificial intelligence (AI) that teaches itself to swing using genetic algorithms based on the natural process of evolution.



An AI robot anyone can build!



Why Learn About AI?

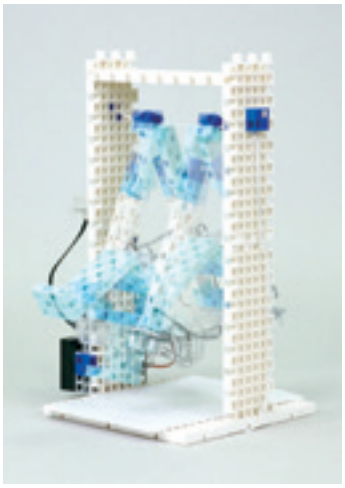
AI technology is already widely used today in call centers, translation, warehouse management, self-driving cars, and more. Experts in the field believe that the development of AI will allow robots to perform many kinds of work currently done by humans, potentially replacing a significant number of jobs with automated systems. However, there are also new kinds of work the development of AI will create. We believe that the study of AI will only become more important as our new digital age marches forward.

Genetic Algorithm Study Guide Included!

Learn the theory behind AI and genetic algorithms!

*Japanese Textbook displayed. English version coming soon.

Take a close look at the programming to understand how AIs work!



Run the AI program on your robot and see it learn to swing, all in 30 minutes of study!

Developed Through Real Classroom Use

Tokyo University's Iba Hiroshi Laboratory + Omiya High School

Makoto Saitou, Computer Science Department, Saitama Prefectural Omiya Senior High School (Classroom Trials)
Hitoshi Iba, Graduate School of Information Science and Technology, Tokyo University (Development)
Kazuo Tenra, Department of Education, Tokyo Gakugei University (Supervision)

The textbook included in this kit is based on AI teaching research and testing by the above collaborators. It teaches students about the history of AI, its usage in the present day, and the workings of genetic algorithms.


Guidebook and Kit Based on Tested Academic Research


AIブランコロボットを用いた情報科教育の実践と考察

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齋藤 実 埼玉県立 大宮高等学校 saito.minoru.0b@spec.ed.jp
天良 和男 東京学芸大学 tenra@u-gakugei.ac.jp
伊庭 斉志 東京大学大学院 情報理工学研究科 iba@iba.t.u-tokyo.ac.jp

近年、AI教育に対する注目が集まっており、世界各国で実例が報告されている一方、日本には未だ実例がほとんどない。本研究では、AIの概念の基礎を学生によりよく理解させるための授業を提案・実証することを目的として、学習ロボットの製作、授業の実施、評価を行った。
その結果、学習ロボットを用いたAI教育の有用性と、高等学校の共通教科「情報科」の授業への導入可能性、今後の改善可能性が示された。
キーワード：AI，高校教育，ロボット，プログラミング

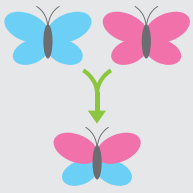
1. はじめに
日本政府が2016年-月）日に発表した新しい成長戦略である「日本再興戦略2016 ―第4次産業革命に向けて c 」の(つに、「プログラミング教育の必修化：小学校 2020年度―，中学校 2021年度―，高等学校2022年度―）がある[1]．「第四次産業革命」のキーワードの(つとなっているのがAI（人工知能：artificial intelligence）である．さらに，文部科学省により大学受験に2020年度よりセンター試験に代わって導入されることが決定した「達成度テスト」の一科目として，2024年度には「情報」が追加される方針も決定された[2]．これにより高校生の「情報」に対する力の入れ方も，急速に変化することが考えられる．
一方，近年，ディープラーニング等の開発により第三次AIブームと呼ばれる時代となり，日々の生活においてAIが身近なものとなった．しかし，その基礎概念さえ，ほとんどの人にとってブラックボックスである．
上記の背景により，世界各国でAI教育の必要性が認識され始めている．AI教育の研究のために設立された機 関 Engineering Applications of Artificial Intelligence(EAAI)では，AI教育のカリキュラムに関する研究論文が募集されている．EAAIで発表された研究事例の(つである，オーストリアにおける高校生へのAI教育プロジェクトJdrobot[3]では，理論と実践の両側面からAIを教える授業が行われた．
日本では，本研究でも使用するArduinoを用いたIoTに関する教育事例が報告されている[4]．Arduinoとは，教育用途向けのオープンソースプラットフォームである．しかし，日本は技術を担う人材育成を掲げているにもかかわらず，AI教育の研究事例がほとんどないというのが現状である．

2. 研究の目的
本研究では，p)0 0 年度からの情報科のプログラミング必修化に向け，今後ますます重要性が増してくるAI の概念の基礎を学生によりよく理解させるための授業を提案・実証する」ことを目的とする．具体的には，教育ロボットを用いたAI 学習教材の製作，高等学校における出前授業を行い，その評価を行う．

3. 研究の評価指標
教育論文において，評価指標は大きな問題である．EAAI の「The EAAI Symposium at AAAI-(」の募集要項[5]では，AI 教育カリキュラム論文の審査基準として / つの観点が挙げられている．そのうち，本研究の目的と合致している
・ターゲットの学生にどれだけ合ったカリキュラムであるか
・教師や教育機関にとってどれだけ採用しやすいカリキュラムであるか
・必要な前提知識をどれだけ少なく抑えているか
・学生の学習の足場として今後の自己学習の手助けになるか
の４つを本研究の評価指標のベースとした．

図 1 Studuino　図 2 Studuino プログラミング環境

Presented at the 8th Japanese Association for Education of Information Studies Research Seminar



What are Genetic Algorithms?

Genetic algorithms are a kind of problem-solving AI designed in the 1970s based on the principle of natural selection. The theory behind them is that if an algorithm tests many solutions to a given problem, then combines and reproduces the fittest ones, the algorithm will eventually find a working (if not perfect) solution to the problem.

Company Training Course for Engineers at Sumitomo Wiring Systems, Ltd.

ArtecRobo in the Workplace

Goals

Give trainees the knowledge and skills needed to understand the technology behind industrial robots by studying three fundamental aspects of robotics engineering: machine operating, software, and sensors.

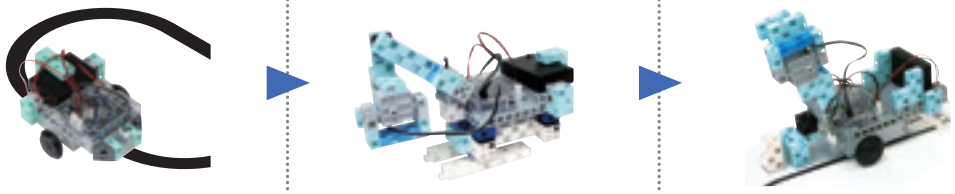
Description

Day 1 Pick Your Own Study Plan

After receiving basic instructions on how to use ArtecRobo as a group, each trainee chose their own course of study. Trainees who wanted to focus only on the basic knowledge and skills needed to solve the challenge courses on Day 2 could follow the basic study plan, while those who wanted to pursue more advanced topics selected additional optional lessons from the expanded study plan.

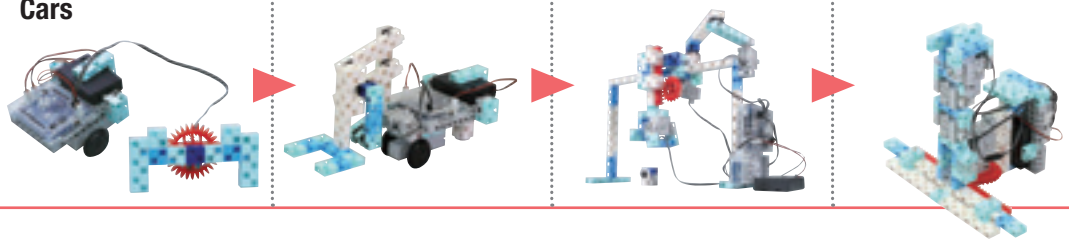
Basic Study Plan

Line Tracer → Robot Arms → Transport Robots



Expanded Study Plan

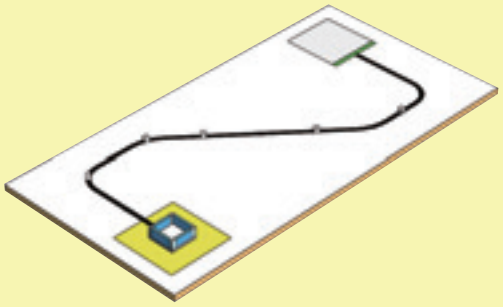
Remote-Controlled Cars → Forklifts → Crane Games → Scanning Arms



Day 2 Solve Challenge Courses in Groups of 2

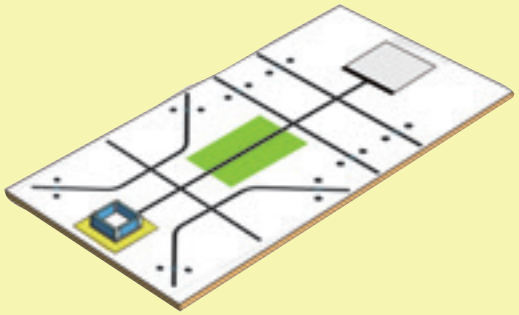
We provided two challenge courses, and trainees chose which to attempt based on their self-evaluated skill level after Day 1. Performance on the challenge courses was evaluated based on both speed and accuracy.

Beginners' Challenge Course



Make a robot follow a single line and pick up blocks placed along it. Most trainees can complete this course with a basic understanding of line-tracing cars and robot arms.

Advanced Challenge Course



Make a robot follow intersecting lines and pick up blocks placed along them. Completing this course is more difficult and requires a solid grasp of how to use sensors to control a vehicle.

Takayuki Sugami,
Production Technology Department,
Sumitomo Wiring Systems, Ltd.

The Tools to Realize Your Ideas in a Matter of Minutes

About the Course

We wanted to use these tools to give our employees a broad understanding of mechatronics relevant to the development of things like manufacturing equipment.

Why I Chose ArtecRobo

I first encountered ArtecRobo at the Educational IT Solutions Expo in Tokyo. Unlike some similar products, I found that with ArtecRobo I could easily build and test whatever program or mechanism I thought of right away, and that made me decide to use it in our course.

My Experience with ArtecRobo

Our goal in a training course is to learn skills, not to make something perfect, so using tools where you need to think about how to reinforce and improve your creation yourself is a real advantage. With some similar products, you'll get a very pretty end result if you follow their exact instructions, but trying to do anything else (using your own ideas) with those kits is surprisingly difficult, and that's the experience that most reflects working on these things in real life. With ArtecRobo, though, you can build something you thought of yourself, even if it isn't perfect, and that's invaluable. I also found the way you need to manage the ports and cables for the sensors yourself really perfect for our company's training purposes.

Part 1: Individual studies

Part 2: Solving challenge courses

Highlights

It was great to have some of our younger employees who tend to program things without really considering the physical properties of the machine have to think about how to use physical mechanisms to cover the gaps in what they could control digitally. Conversely some of our main engineers who'd build machines without thinking about the software that goes into them had to consider what software is and isn't capable of and what the machine needs to be able to do itself.
It was also a great opportunity for our newest recruits to get a feel for what the whole company does in miniature. In our business you often have the people in charge of the software and the hardware blaming problems on each other without really understanding what the other side's job involves, but doing a project like this can really open everyone's eyes to the overall process and how unhelpful that kind of thinking is.

Training Manufacturing Professionals

I think in this field you need to have a solid base of knowledge and experience in engineering to be able to analyze problems and get the root of them.

Those same skills also help you look at the wider industry and identify where the same kind of problem exists, and if solutions to that problem might have been found already.

Trainee Response

When we had everyone competing in teams, testing their ideas and seeing them succeed and fail, I think it was the most exciting training class we've had.
I think a major part of that is how these tools let you realize and test your ideas in a matter of minutes after the thought occurs to you. With other similar tools, it can take hours just to build something according to their instructions, and if you want to try to use your own ideas to modify it afterward, you won't be able to finish in the short time we have for training. Seeing trainees dealing with problems directly related to our real work, like making mistakes because they didn't label their sensor ports clearly or frantically searching for the source of a problem to find that they had their cables mixed up made me certain that this was a valuable training exercise indeed.

Programming instruction

#095060

Vacuum Cleaner

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Dimensions: W 75 x H 125 x D 210 mm (3 x 4.9 x 8.3")
- Materials: Paper, PP, copper
- Weight: 204 g

P.63 ➡

AWARD WINNER!

Creative Child Magazine CREATIVE CHILD AWARDS 2013 TOP TOY of the Year Award www.creativechild.com

The science inside
Learn how air flows from higher to lower pressure areas!

#095059

Walking Robot

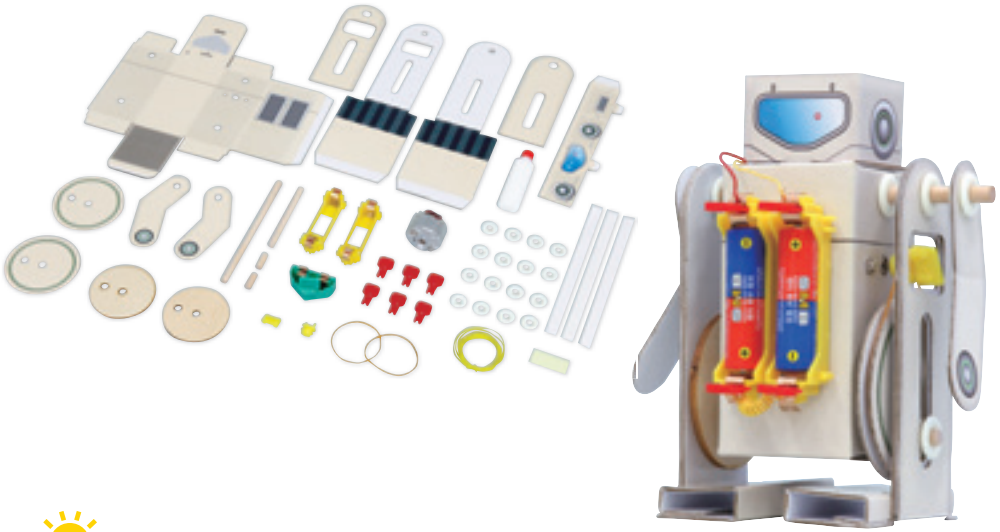
- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Dimensions: W 155 x H 50 x D 85 mm (6.1 x 2 x 3.3")
- Materials: Paper, PP, wood, rubber, copper
- Weight: 265 g

P.63 ➡

AWARD WINNER!

Creative Child Magazine CREATIVE CHILD AWARDS 2013 Preferred CHOICE Award www.creativechild.com

10 BEST DR. TOY'S TECHNOLOGY



The science inside
Learn how the motor and pulley move the robot!

#095050

Metal Detector

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Dimensions when assembled: W 240 x H 106 x D 90 mm (9.4 x 4.2 x 3.5")
- Materials: Epoxy, copper, paper, PP
- Weight: 181 g

P.62 ➡

Hunt for lost treasure and learn about magnetic fields!

*You will not be able to detect small or deeply buried metal objects.

AWARD WINNER!

Creative Child Magazine CREATIVE CHILD AWARDS 2013 Preferred CHOICE Award www.creativechild.com

The science inside

Learn how magnetic fields react to metal, and go on a treasure hunt!

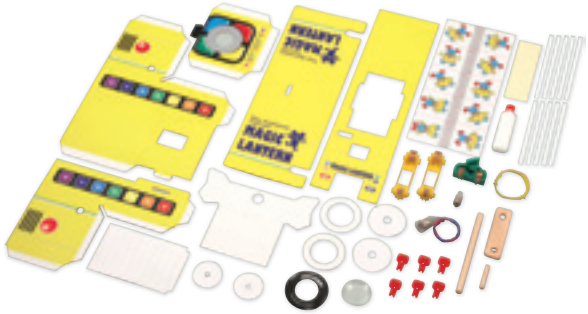
#095058

Anime Projector

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Dimensions: W 175 x H 90 x D 130 mm (6.9 x 3.5 x 5.1") (when assembled)
- Materials: Paper, PP, copper
- Weight: 278 g

P.65 ➡

Features Project animation on the walls of your room!



The science inside

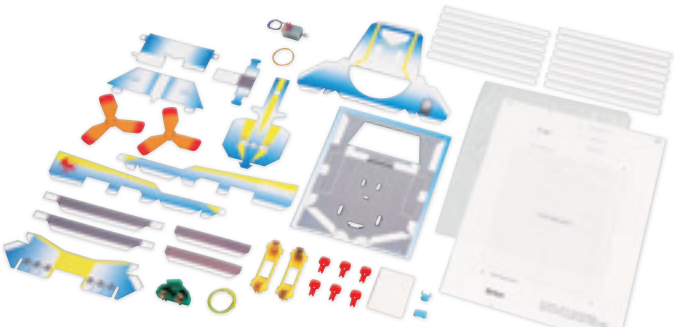
Learn how animation is made and projected using the effect of persistence of vision!

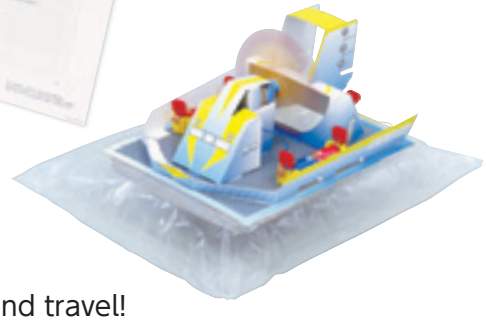
#095065

Hovercraft

- Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
- Dimensions: W 300 x H 240 x D 105 mm (11.8 x 9.4 x 4.1") (when assembled)
- Materials: Paper, rubber, copper
- Weight: 241 g

P.66 ➡





The science inside

Learn about how air pressure and friction make the hovercraft float and travel!

#196487

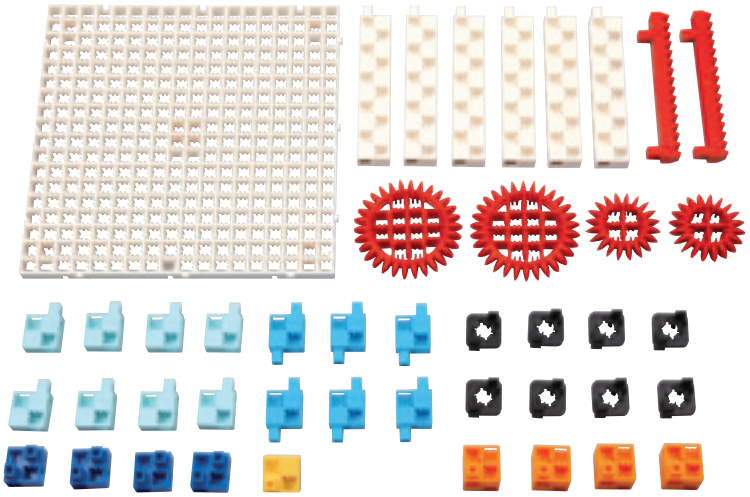
Advanced Mechanics Set

■ Package dimensions:
W 224 x H 191 x D 45 mm (8.8 x 7.5 x 1.8")
■ Materials: ABS ■ Weight: 451 g

31page
Study Guide included

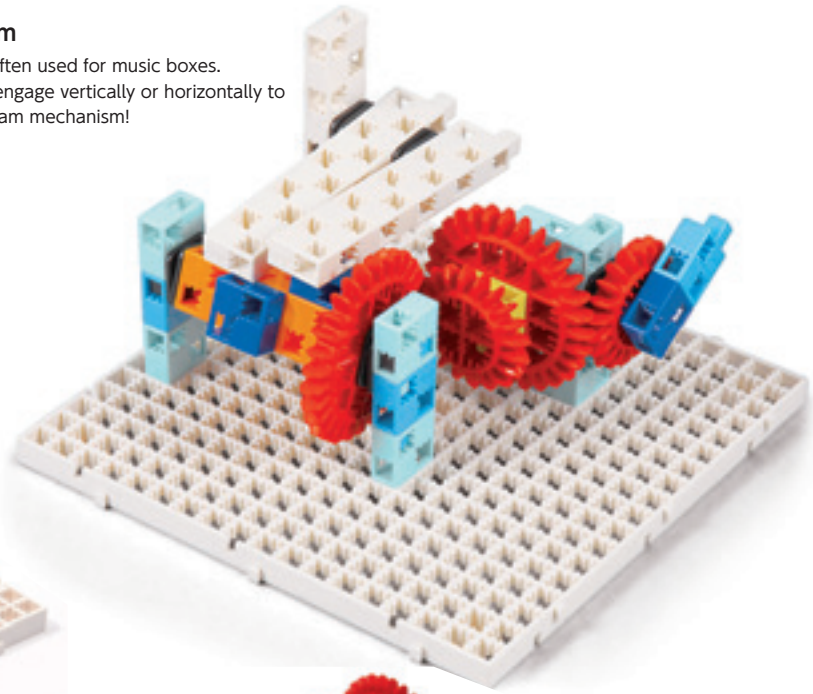
Contents

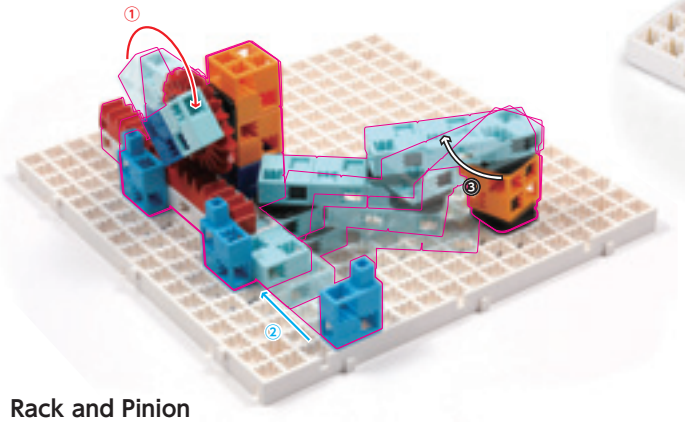
Basic Cube (Orange)	4
Half A (Yellow)	1
Half B (Blue)	4
Half C (Light Aqua)	8
Half D (Light Blue)	6
Rotor Axis C	8
Beam	6
Gear Block L	2
Gear Block S	2
Drive Rail	2
Base Plate 18	1



Cam Mechanism

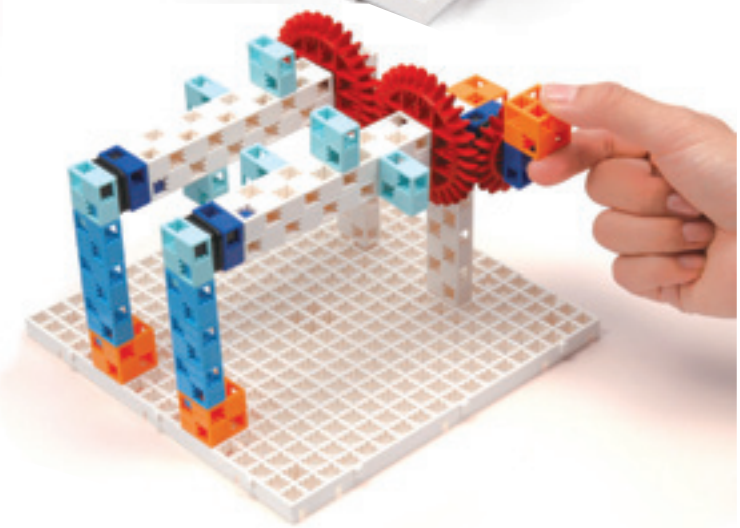
This mechanism is often used for music boxes.
Use gears that can engage vertically or horizontally to make a music box cam mechanism!





Rack and Pinion

This mechanism is often used for car steering wheels.
Reproduce the mechanisms around you by combining the gear and linkage mechanisms!



Vertical/Horizontal Connection Mechanism

This mechanism is often used for shredders.
Learn the changes which occur through applied force!

#196488

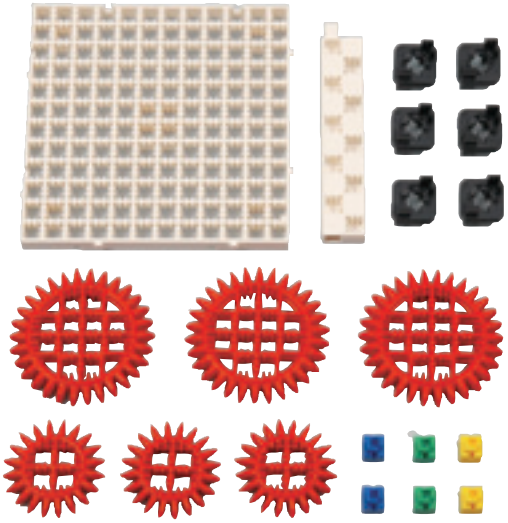
Gear Study Kit

■ Package dimensions:
W 230 x H 159 x D 43 mm (9.1 x 6.3 x 1.7")
■ Materials: ABS ■ Weight: 262 g

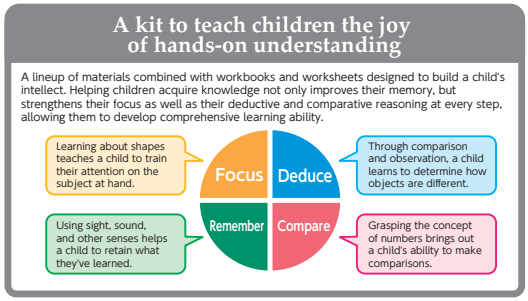
26 page Study Guide included

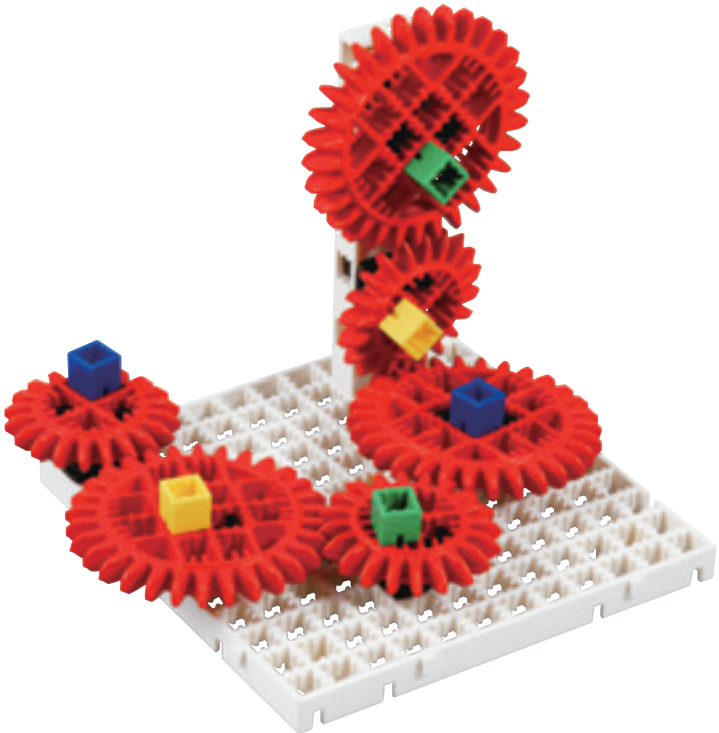
Contents

Gear Block L	3
Gear Block S	3
Rotor Axis C	6
Beam	1
Mini Cube (Blue, Green, Yellow)	2 each
Base Plate 12	1



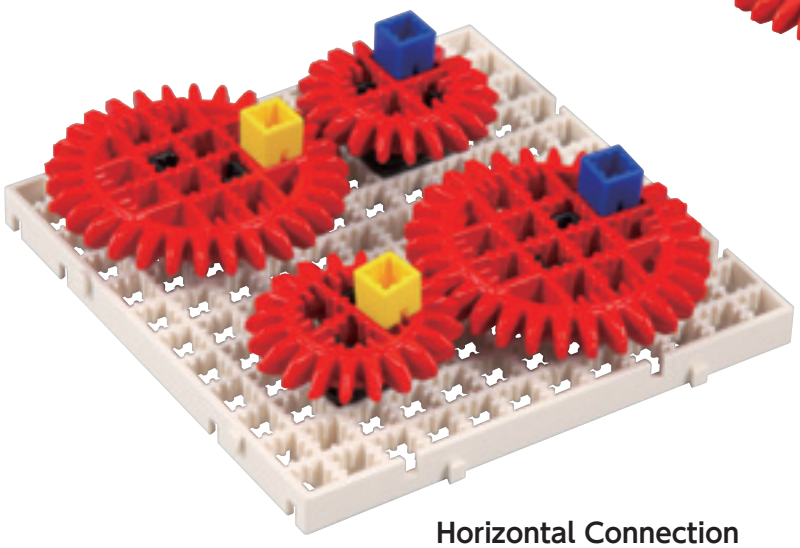
Learn the basics of rotation and power transmission through gears!





Vertical/ Horizontal Connection

Easily make two gears engage by attaching them to the base plate!



Horizontal Connection

Large gears clearly show the turning direction and mechanism structure.

Physics

#198074

AT Hand Crank Generator

BEST SELLER!

■ Package dimensions:
W 150 x H 130 x D 45 mm (5.9 x 5.1 x 1.8")
■ Dimensions: Main body W 152 x H 110 x D 40 mm (6 x 4.3 x 1.6"), Cord 1 m (39.4") with alligator clips
■ Materials: Main body (transparent PC), Handle (ABS)
■ Weight: 145 g

MAX Voltage 15V

MAX short circuit current 1.5A

#198090

Multipurpose Power Generator B (Partially assembled)

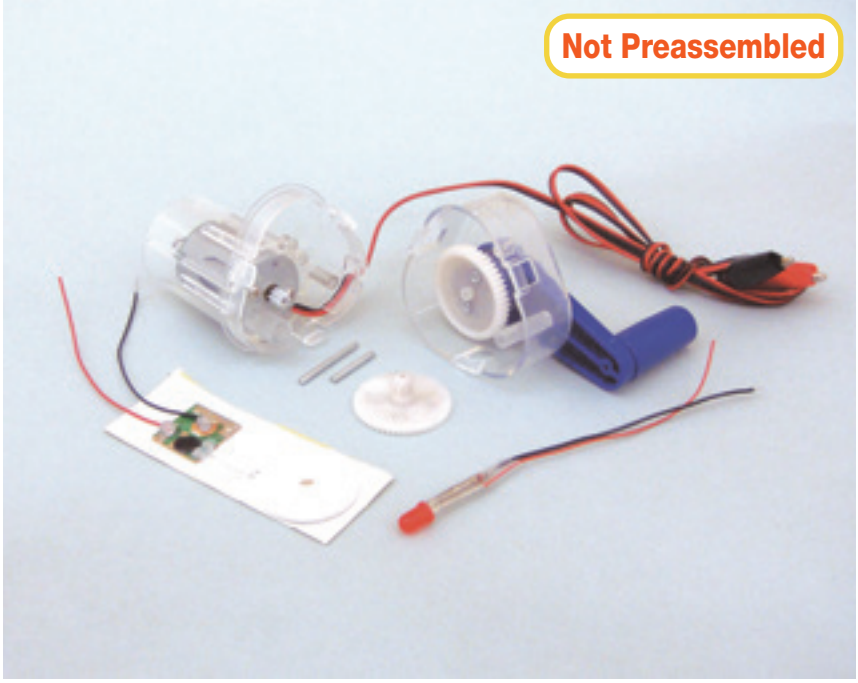
■ Package dimensions:
W 100 x H 120 x D 60mm (3.9 x 4.7 x 2.4 ")
■ Dimensions: W 106 x H 53 x D 70 mm, cable (1 m, with alligator clip) (4.2 x 2.1 x 2.8 ")
■ Materials: ABS ■ Weight: 125.6 g

Includes an LED light and an electric music box!

Contents

Multipurpose Power Generator Assembly Kit ····· 1
LED light ····· 1
Electric Music Box ····· 1

MAX Voltage 7V



#095072

Run! Catlight

■ Package dimensions:
W 145 x H 100 x D 60 mm (5.7 x 3.9 x 2.4")
■ Weight: 165 g

No assembly or wiring required!

Contents

Cover	1
Capacitor Unit	1
Buzzer Unit	1
LED Unit	1
Miniature Bulb Unit	1
Handle	1
Wheel	1
Body	1
Wheel	2
Gear Wheel	1

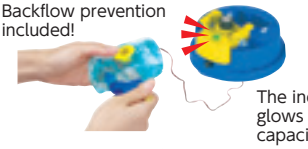
Experiment 1

Make electricity with your generator!

Experiment 2

Store electricity with your capacitor!

Backflow prevention included!



The indicator light glows when the capacitor is full!

Experiment 3

Use the electricity you've stored!

Light

Miniature bulb and LED

Sound

Buzzer

Motion

Run!

Feature 1

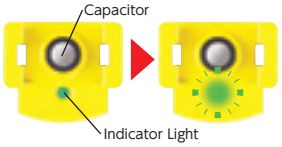
No assembly or wiring required!

It's as simple as plugging in whatever units you want to use!

Miniature Bulb Unit | LED Unit | Buzzer Unit | Capacitor Unit

Feature 2

The indicator light glows when the capacitor is full!



Feature 3

Units slot right into place!

Clicks into place!

It won't go in if it's backward!

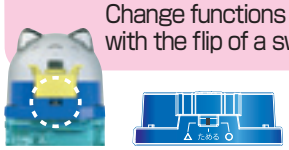
Feature 4

Attach the handle on either side!

Easy to wind whether you're left- or right-handed!

Feature 5

Change functions with the flip of a switch!



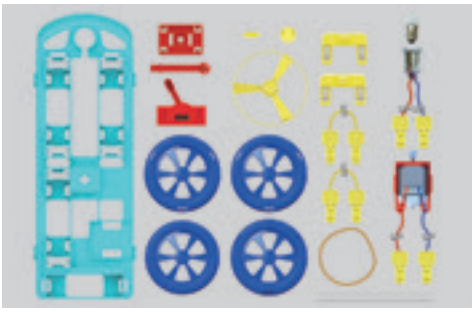
Patent Pending

#095075

How Electricity Works (Type K)

Preassembled parts, so you can get right to experimenting!

■ Package dimensions: W 125 x H 200 x D 60 mm (4.9 x 7.9 x 2.4") ■ Dimensions when assembled: approx. W 190 x H 105 x D 160 mm (7.5 x 4.1 x 6.3") ■ Materials: PP, iron, rubber ■ Weight: 190 g

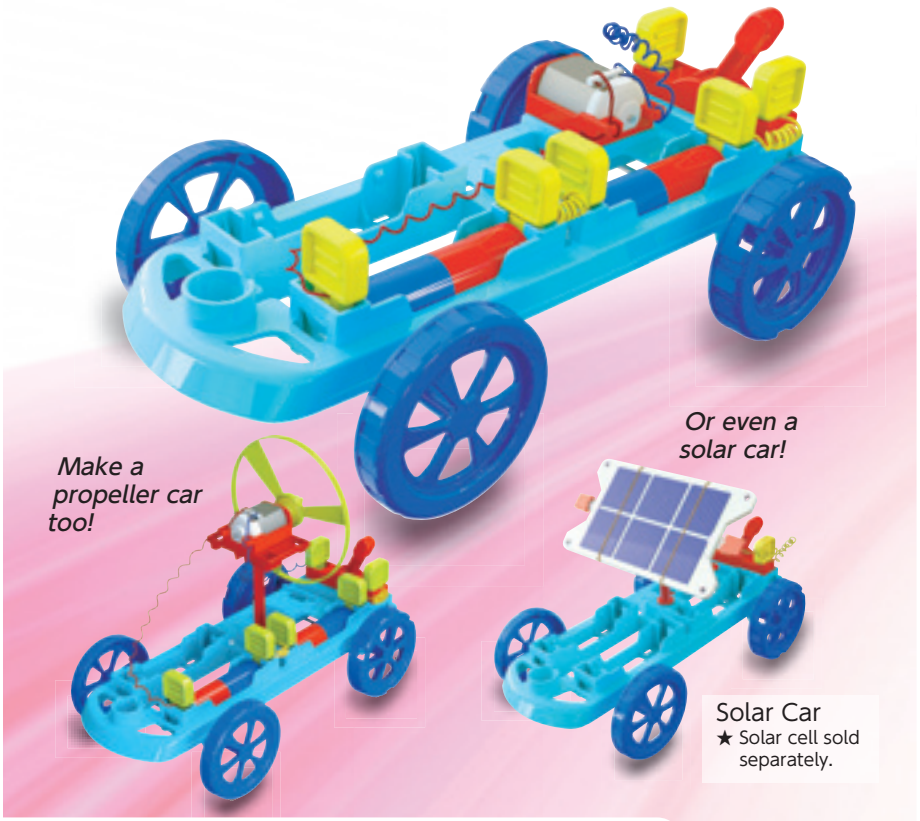


Contents

Car Body	1	Miniature Bulb	1
Front Wheel	2	Socket w/ Plugs	1
Back Wheel	1	Preassembled Switch	1
Gear Wheel	1	Propeller	1
Axle	2	Propeller Mount	1
Motor w/ Plugs	1	Propeller Clip	1
Motor Base	1	Pillar	1
Wired Plug	2	Rubber Band	1
Preassembled Parallel Plug	2		

2 size AA heavy duty/general purpose batteries required (Not included)

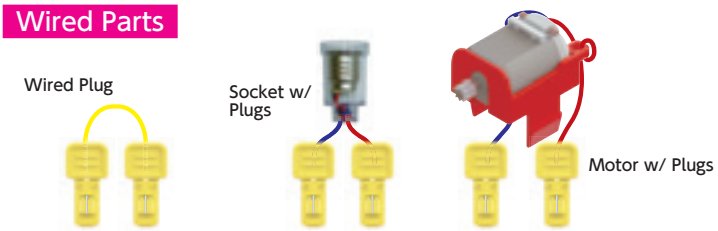
Preassembled and Fully Wired Parts



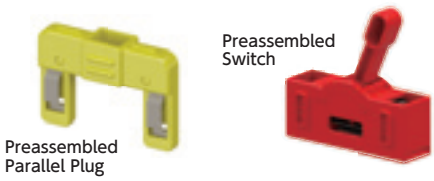
Type K Features

Preassembled and fully wired parts, so you can start experimenting right away!

Wired Parts

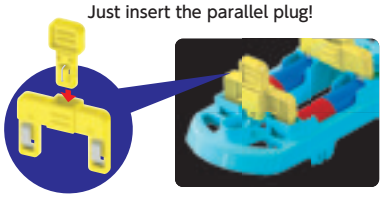


Wired Plug



Feature 1 Easy parallel circuits!

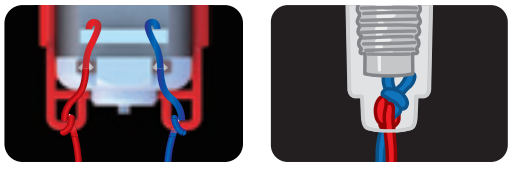
Just insert the parallel plug!



Feature 2 Uses gear drive!

Feature 3 Built to keep wires in place!

Secure conducting wires that won't fall out of place!

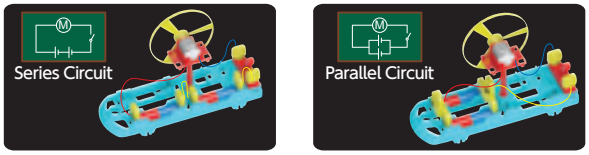


Feature 4 Large, easy to use ON/OFF switch!

Feature 5 Includes two kinds of propeller!

Durable plastic!
Lightweight paper!

Feature 6 You can lay out your circuit just like in your textbook pictures!



#196407

Static Shocker

AWARD WINNER!

2014 Creative Child Awards Preferred CHOICE Award

- Package dimensions: W 225 x H 165 x D 60 mm (8.9 x 6.5 x 2.4")
- Dimensions: Main body W 75 x H 53 x D 185 mm (3 x 2.1 x 7.3")
- Materials: ABS, PVC, rubber, aluminum, silicone rubber, steel
- Weight: 200 g

Study Guide inside! P.54➡

Contents

Van de Graaff generator……1
Mirrored tape……5
Study Guide……1

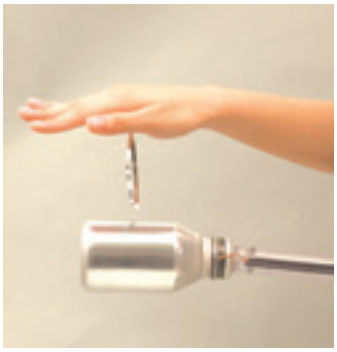
★ Disclaimer: All products and information are subject to change without prior notice.

A compact Van de Graaff generator
designed for individual use.

★ Neon tube not included.

Does the neon tube light up because of the battery or static electricity?

Can water and static electricity get close to each other?



Move the mirrored tape in the air!

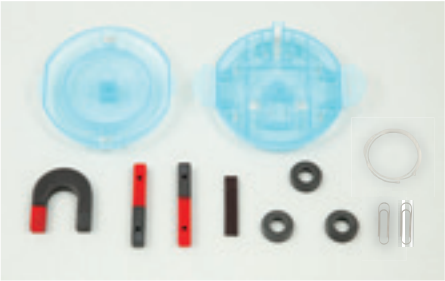
#197819

Magnet Set H-type

Our definitive magnet set! Play games or try out seven different experiments!

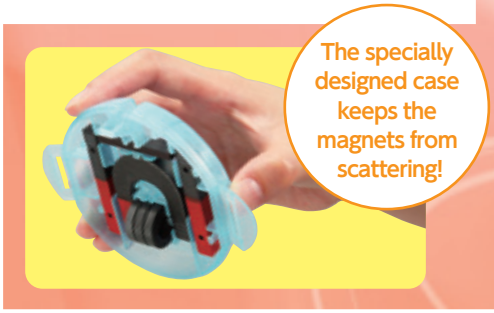
Experiment Guide Included!

■ Package dimensions: W 98 x H 30 x D 88 mm (3.9 x 1.2 x 3.5") ■ Dimensions when assembled: approx. W 190 x H 105 x D 160 mm (7.5 x 4.1 x 6.3")
■ Materials: PP, iron, rubber ■ Weight: 150 g



Contents

Magnet Case	1
Lid	1
Bar Magnet	2
Horseshoe Magnet	1
Round Magnet	3
Rubber Magnet	1
Paperclip	2
Thread	1

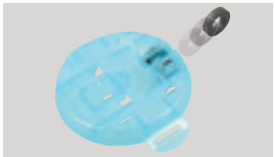


International Patents Pending

The magnets stick in place, making set up, clean-up and experimenting fast and easy!

Fun with Magnets!

Launch magnets from your case!

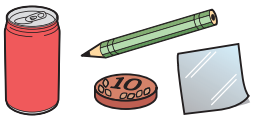


Wobbly Tower (play with a friend!)

★ Ring, pencil, and eraser not included

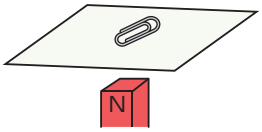
7 Experiments!

Experiment 1 Magnetic or Not?



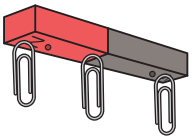
What do magnets stick to?

Experiment 2 Pulling Power



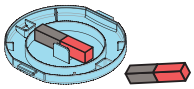
Do magnets work from a distance?

Experiment 3 Magnetic Poles 1



Which part of a magnet is the strongest?

Experiment 4 Magnetic Poles 2

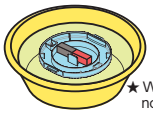


What happens when you bring the poles of a magnet together?

Experiment 5 Rubber Magnet Poles

Can you cut a rubber magnet in half to separate its N and S poles?

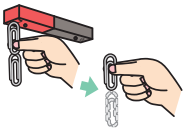
Experiment 6 Poles and Directions



★ Wash bowl not included

Where will the N and S poles of a magnet point if they can move freely?

Experiment 7 Magnets and Steel



What happens to steel when it touches a magnet?

#198057

Pendulum Experiment Equipment Kit

■ Package dimensions: W 77 x H 30 x D 260 mm (3 x 1.2 x 10.2")
■ Dimensions: Pendulum W 79 x H 60 x D 260 mm (3.1 x 2.4 x 10.2")

Contents

Post	1
Base	1
Long Arm (237 mm, 9.3")	1
Short Arm (117 mm, 4.6")	1
Clamp, Clamp Stopper, L-shaped Bracket	1 each
Wing Nut	1
Stopper	1
Iron Core	1
Iron Catcher	1
Iron Ball	1
Marble	1
String (2 m, 2 yd)	1

Pendulum Experiment

Compare results with two different arms (long/short).

Measure from the arm window!

You can adjust the string length to experiment up to 100 cm (39.4") in length.

#196408

Balancing Numbers

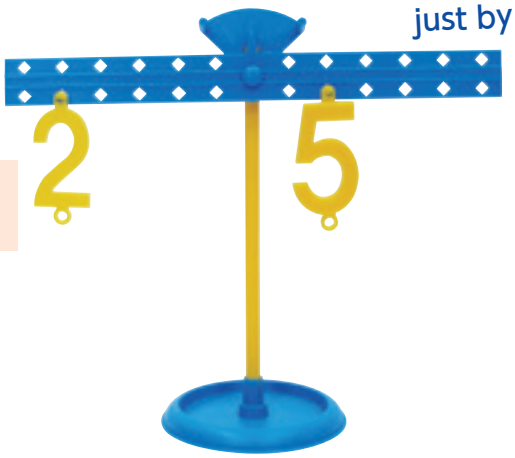
■ Package dimensions: W 225 x H 165 x D 60 mm (8.9 x 6.5 x 2.4") ■ Dimensions: W 210 x H 260 x D 105 mm (8.3 x 10.2 x 4.1") ■ Materials: PP ■ Weight: 190 g

Study Guide inside!

P.55 ➡

★ Disclaimer: All products and information are subject to change without prior notice.

You can see how heavy the weight is, just by looking at it!

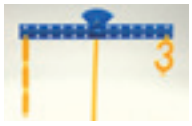


Visualize!

Number-shaped weights make it easy to visualize! 1-5 g

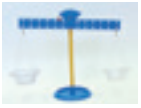
Connect!

The weights can also be connected vertically which increases the variety of experiments you can carry out!



Compare!

Using the plastic dish, you can also do basic comparative experiments!

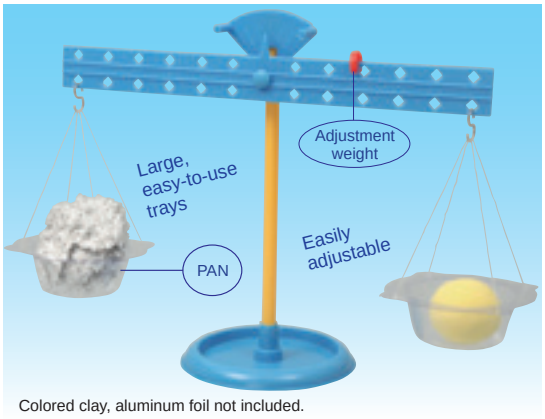


#198169

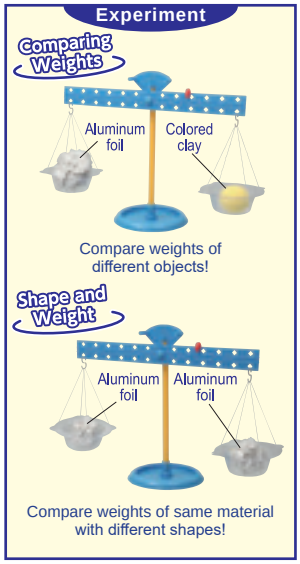
Basic Balance Scale

■ Package dimensions: W 30 x H 260 x D 110 mm (1.2 x 10.2 x 4.3") ■ Dimensions: W 225 x H 260 x D 105 mm (8.9 x 10.2 x 4.1") ■ Materials: PP ■ Weight: 110 g

Everything you need to do basic balance experiments!



Colored clay, aluminum foil not included.



#198111

Metal Weight Set

■ Package dimensions: W 115 x H 215 x D 30 mm (4.5 x 8.5 x 1.2")
■ Case dimensions: W 45 x H 75 x D 105 mm (1.8 x 3 x 4.1")
■ Weight: 582 g

Easily learn the principles of levers while having fun!

Contents

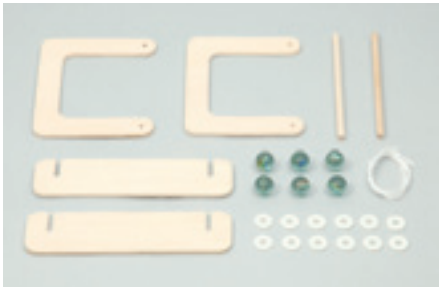
Weight: 200 g (0.4 lbs) x 2
50 g (0.1 lbs) x 2 20 g (0.04 lbs) x 2
10 g (0.02 lbs) x 1

#198182

Newton's Cradle Assembly Kit

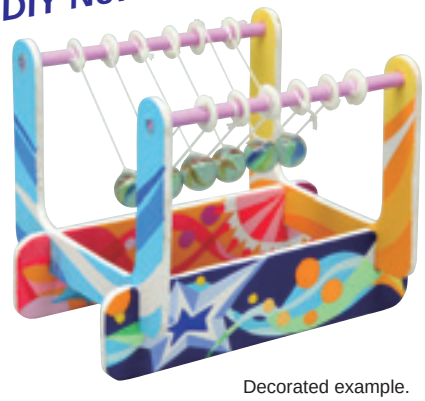
■ Package dimensions: W 110 x H 190 (header 30) x D 20 mm, (4.3 x 7.5 (header 1.2") x 0.8")
■ Dimensions when assembled: W 160 x H 120 x D 120 mm (6.3 x 4.7 x 4.7")
■ Materials: Main body (plywood)
■ Weight: 88 g

Learn about the law of conservation of momentum!



Build a Newton's cradle and learn how energy is transferred between two distant objects!

DIY Newton's cradle!



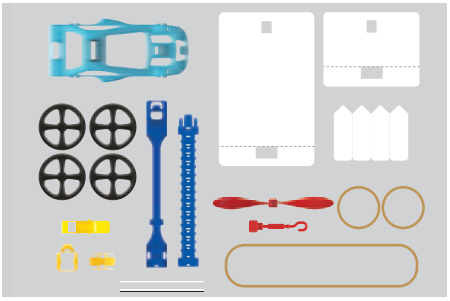
Decorated example.

#095070

Wind & Elastic Powered Car SP

Experiment with the power of elastic and the power of wind with the Propeller Car, Rocket Car, and Wind Car!

■ Package dimensions: W 120 x H 210 x D 60 mm (4.7 x 8.3 x 2.4") ■ Dimensions when assembled: W 165 x H 115 x D 230 mm (6.5 x 4.5 x9.1")
■ Materials: PP, ABS, iron, paper, rubber
■ Weight: 135 g



Contents

Car Body	1
Switch Set	1
Tire Set	1
Launchpad (front)	1
Launchpad (back)	1
Axle	2
Rubber Band (small)	2
Rubber Band (large)	1
Sail (large)	1
Sail (small)	1
Propeller	1
Propeller Axle	1
Record Markers	4

Feature

Lock your propeller in place!

The propeller won't spin until you press the switch!

3 experiments to try!

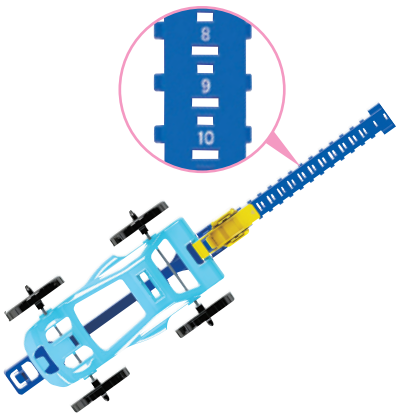
Elastic Power
(Propeller Car)

Experiment 1 Elastic Power (Propeller Car)

Change how many times you twist the rubber band and see if your car runs differently!

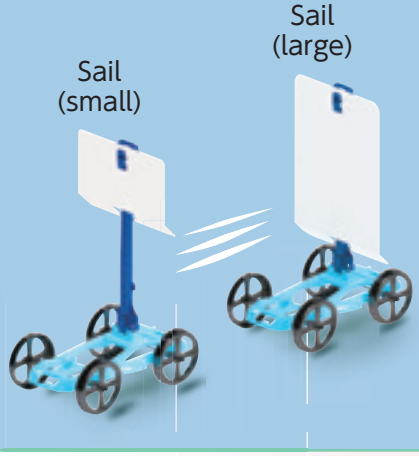
Experiment 2 Elastic Power (Rocket Car)

Launch your car from different markers and see how far it goes!



Experiment 3 Wind Power (Wind Car)

Change the size of the sail and see if your car runs farther!



#196467

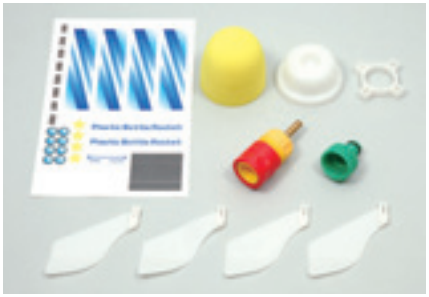
Fly-High Rocket

Study Guide inside!

P.55 ➡

Flies up to 60 m with the power of water and compressed air!

■ Package dimensions: W 225 x H 165 x D 60 mm (8.9 x 6.5 x 2.4") ■ Dimensions: Approx. 330 x 190 mm (when assembled / depending on size of bottle), Pad dia. 65 x 67 mm (2.6 x 2.6"), Launcher unit dia. 35 x 87 mm (1.4 x 3.4"), Pad connector dia. 68 x 35 mm (2.7 x 1.4"), Wing W 74 x H 80 x D 10 mm (2.9 x 3.1 x 0.4")
■ Materials: EVA, PP, rubber, brass
■ Weight: 195 g



★ Disclaimer: All products and information are subject to change without prior notice.

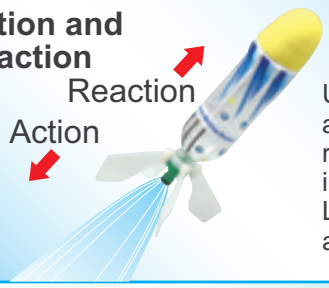
Contents

Wing	4
Joint (wing)	1
Joint (launcher unit)	1
Launcher unit	1
Pad (head)	1
Joint (head)	1
Colored sticker	1

★ Air pump and plastic bottle not included.
★ Bicycle pump not included (Schrader/American valve only).

LEARN ABOUT FOUR TYPES OF FORCES!

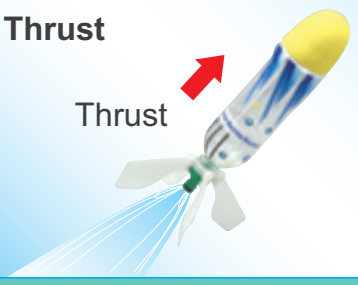
① **Action and Reaction**



Use compressed air to make your rocket soar off into the sky. Learn about action and reaction!

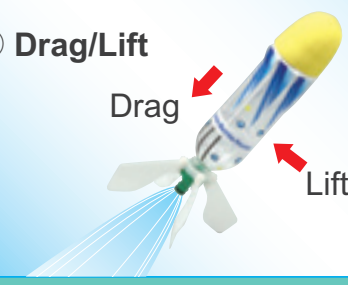
② **Gravity**

③ **Thrust**



Vary the thrust by changing the amount of water and compressed air.

④ **Drag/Lift**



Attach the wings and pad to find out about drag and lift.

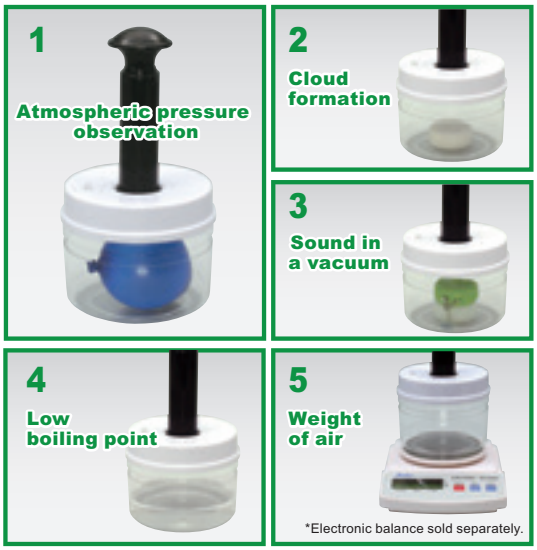
#198087

Advanced Vacuum Experiment Kit

■ Package dimensions: W 130 x H 150 x D 130 mm (5.1 x 5.9 x 5.1") ■ Dimensions: Vacuum container 700 ml, dia. 120 x 110 mm (4.7 x 4.3"), sponge dia. 50 x 20 mm (2.0 x 0.8")
■ Materials: Container (acrylic), Cover (ABS), Handheld vacuum pump (ABS) ■ Weight: 373 g

5-in-1 experiment kit!

Easily recognize drops in atmospheric pressure! (stopper will sink)



#198086

Basic Vacuum Experiment Kit

■ Package dimensions: 130 x 130 x 150 mm (5.1 x 5.1 x 5.9")
■ Dimensions: Vacuum container (700 ml) dia. 120 x 110 mm (4.7 x 4.3")
■ Materials: Container (acrylic), Cover (ABS), Handheld vacuum pump (ABS)
■ Weight: 309 g

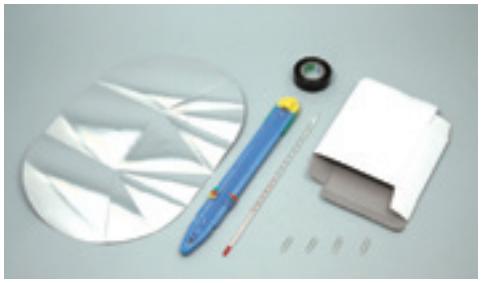
BEST SELLER!

#198185

Solar Water Boiler Kit

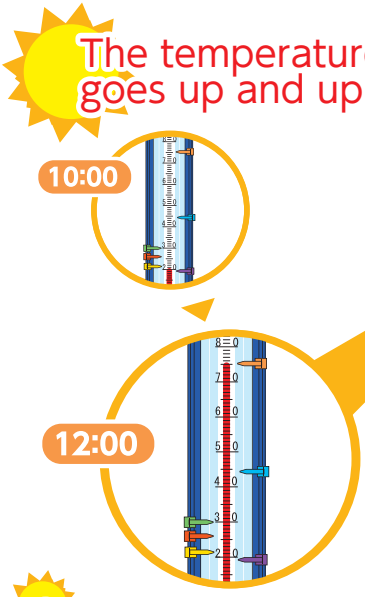
■ Package dimensions: W 210 x H 305 x D 26 mm (8.3 x 12 x 1") (without header) ■ Dimensions: Approx. W 200 x H 200 x D 170 mm (7.9 x 7.9 x 6.7"), Collecting board 390 x 260 mm (15.4 x 10.2") (when assembled)
■ Materials: Reflecting board, Base box (paper), Thermometer case (ABS) ■ Weight: 195 g

Bring water to a boil using the power of the sun!



Contents

Reflecting Board 1
Base Box 1
Black Electrical Tape 1
Paper Clip 4
Advanced All-Purpose Thermometer 1



Comes with an Advanced All-Purpose Thermometer.

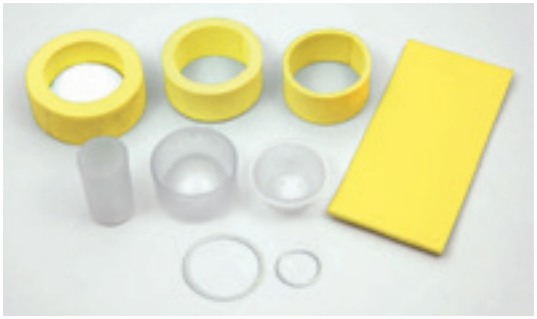
The six-colored index will make it easier to record the temperature changes.

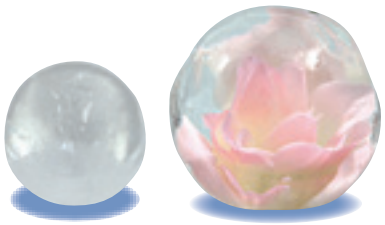
First, wrap a can in black electrical tape. Cover it with a clear plastic bottle and leave it in a sunny area. Under the right conditions, the water in the can will start to boil!

#196477

See-Thru Ice

■ Package dimensions: W 225 x H 165 x D 60 mm (8.9 x 6.5 x 2.4") ■ Dimensions: dia. 100 x 155 mm (3.9 x 6.1") (when assembled), dia. 100 x 40 mm (3.9 x 1.6") (largest individual part) ■ Materials: PP, EVA, silicone rubber ■ Weight: 191 g





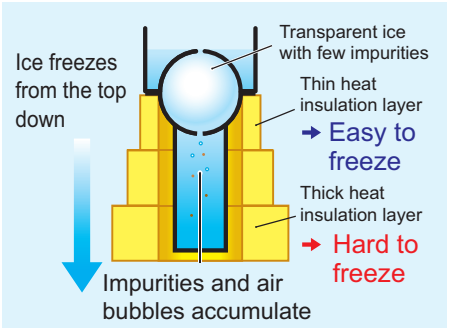
Study Guide inside!

P.59 ➡

★ Disclaimer: All products and information are subject to change without prior notice.

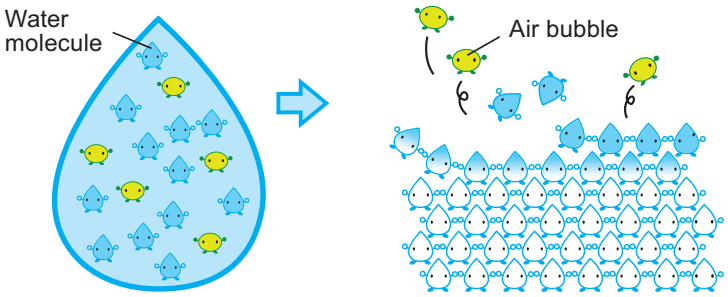
If you add water and freeze it...

You get round, crystal-clear ice!



Discover the science inside! What happens as ice forms?

Clear illustrations of the inner workings of ice!



#196483

Moving Heat

■ Package dimensions: W 225 x H 165 x D 60 mm (8.9 x 6.5 x 2.4") ■ Dimensions: Observation container W 105 x H 75 x D 35 mm (4.1 x 3.0 x 1.4"), Heating wire device W 60 x H 110 x D 27 mm (2.4 x 4.3 x 1.1"), Partition board W 87 x H 25 x D 5 mm (3.4 x 1.0 x 0.2") ■ Materials: ABS, PP, PE, EVA, phenolic paper ■ Weight: 199 g

Easily observe heat transfer and experiment to learn how heat works!

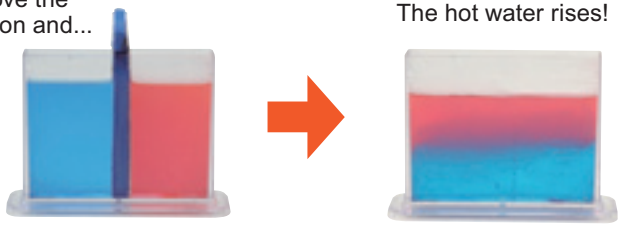
Study Guide inside!

P.59 ➡

★ Disclaimer: All products and information are subject to change without prior notice.

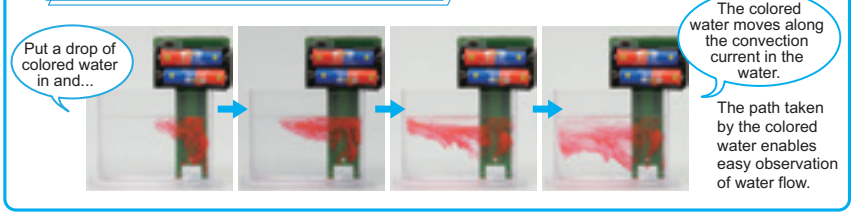
Mixing hot and cold water

Remove the partition and...

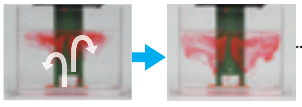


The hot water rises!

Visible convection experiment

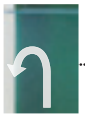


Other interesting experiments you can conduct!



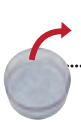
Different convection flows

By changing the position of the heating wire, you can see and compare different convection flow patterns.



Observe convection using silver grains

Watch carefully how silver grains flow by convection.



Benard convection

Observe an interesting pattern made by convection.

#196525

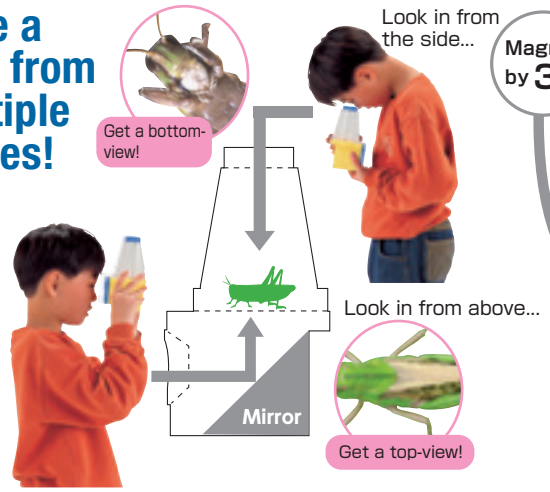
Creature Peeper

■ Dimensions:
W 100 x H 96 x D 132 mm, lens dia. 30 mm
■ Materials: ABS, PMMA

Loop string through the holes to make a carrying lanyard!

★ String not included.

Take a look from multiple angles!



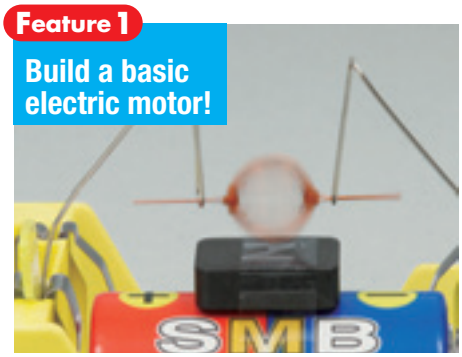
#198195

Principles of Electric Current Sample Experiment Kit

★ Requires 2 x heavy duty/general purpose D-size batteries
(sold separately)

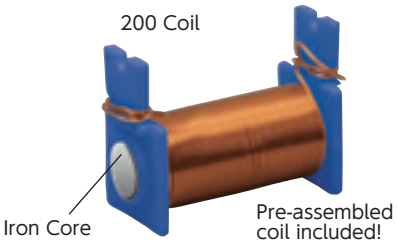
Try all kinds of easy electromagnet experiments!

Feature 1
Build a basic electric motor!



Feature 2
Test electric currents and magnetic polarity!

Feature 3
Easy-to-set-up experiments!



Battery Box

Ready-to-use with all the switches and fittings in place!

■ Package dimensions: W 120 x H 75 x D 50 mm (4.7 x 3 x 2")
■ Dimensions: Battery holder W 100 x H 45 x D 72 mm (3.9 x 1.8 x 2.8")
■ Materials: PP ■ Weight: 105 g

Contents

Battery Box (100 x 45 x 72 mm)	1
200 Coil	1
Bobbin (30 x 22 x 14 mm)	1
Iron Core	1
Connecting Plug	2
Compass	1 set
Enameled Wire	1 coil
Sandpaper	1
Nail	10
Paperclip	2
Ferrite Magnet	1

Feature 4
No assembly required!

Just add wire to start experimenting!

Experiment 1
Electromagnetic Coils (Part 1)

Experiment 2
Current and Electromagnets

Experiment 3
Electromagnetic Coils (Part 2)

Experiment 4
Making Stronger Electromagnets

#198084

LED Light Source Devices (3-Color Set)

■ Package dimensions: W 112 x H 125 x D 25 mm (4.4 x 4.9 x 1") ■ Dimensions: W 120 x H 35 x D 20 mm (3.9 x 2.4 x 1.6") (each) ■ Materials: ABS ■ Weight: 225 g

Slim and versatile red, blue, and green light sources with bright LEDs and removable cover caps!

Patent Pending

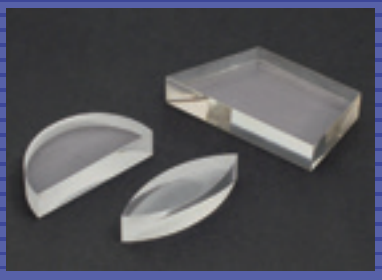
BEST SELLER!

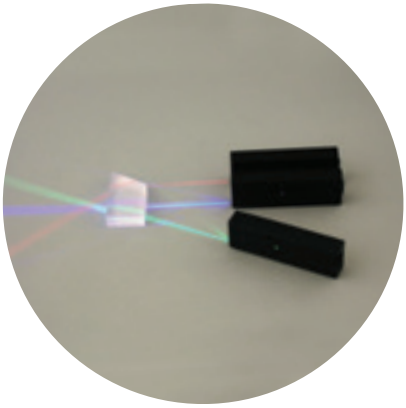
#198092

Optical Block Set

■ Package dimensions: W 103 x H 133 x D 43 mm (4.1 x 5.2 x 1.7") ■ Dimensions: Semicircle lens: dia. 60 x 15 mm (dia.2.4 x 0.6"), Trapezium lens W 75 x H 40 x D 15 mm (3.0 x 1.6 x 0.6"), Convex lens W 60 x H 20 x D 15 mm (2.4 x 0.8 x 0.6") ■ Materials: Crystal glass (frosted on the bottom) ■ Weight: 193 g

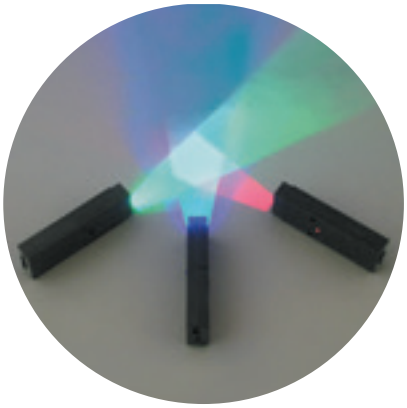
A set of three lenses to be used for studying the reflection and refraction of light. Bottom surfaces are frosted —ideal for observing light paths.





The three separate colors allow you to experiment with parallelism, diffusion, and convergence of light.

Magnets on the side make whiteboard presentations easy!
★ Lenses are not magnetic



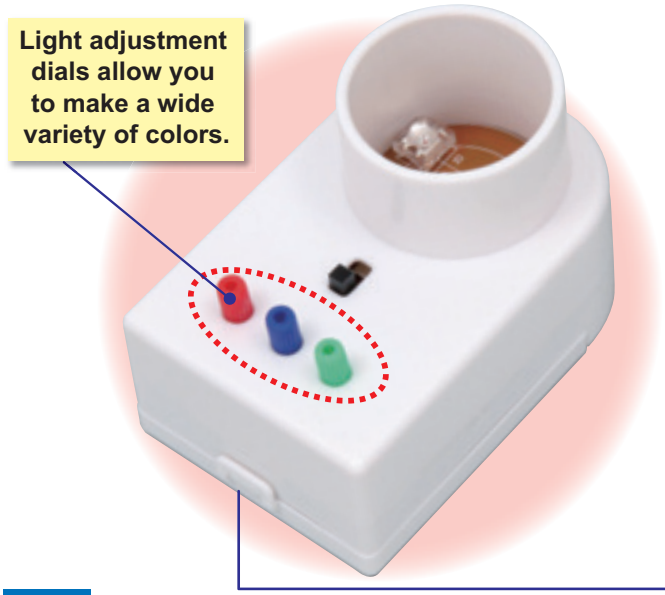
Removable cover cap!
Use all three colors to learn about the composition of light!

#196474

Color Blender

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Dimensions: W 50 x H 78 x D 50 mm (2 x 3.1 x 2") ■ Materials: ABS ■ Weight: 149 g

Study Guide inside!

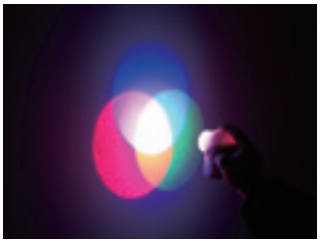


P.58 ➡

What color is sunlight?

Is the color of sunlight the same as the color of light from a lightbulb?
Use a regular CD to make a simple spectrometer and find out!

The Power of 3! *Discover the secrets of the video monitor!*



TV and computer monitors create color by changing the brightness of these primary colors of light. With this experiment kit, you can try it yourself!

★ Disclaimer: All products and information are subject to change without prior notice.

#198135

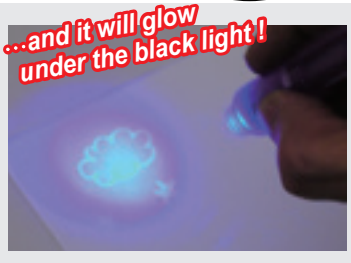
Magical Light Pen

■ Package dimensions: W 30 x H 155 x D 14 mm (1.2 x 6.1 x 0.6")
■ Dimensions: Length 132 mm (5.2") ■ Materials: PE
■ Weight: 12 g

A pen with a built in black light!

Use your Magical Light Pen to write secret messages that can only be revealed using a black light!

Write on a piece of white paper . . .



#198021

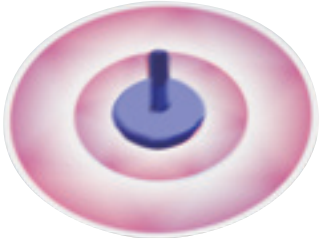
Color Blending Wheels

■ Package dimensions: W 140 x 100 x 15 mm (5.5 x 3.9 x 0.6")
■ Dimensions: 90 x 90 mm (3.5 x 3.5"), spinning top dia. 13 x 35 mm (0.5 x 1.4") ■ Materials: Disk (paper), Top (PP)
■ Weight: 17 g

Assemble and spin the disks! You will see the colors and patterns change right before your eyes!

...and be amazed!

Spin it...



Contents

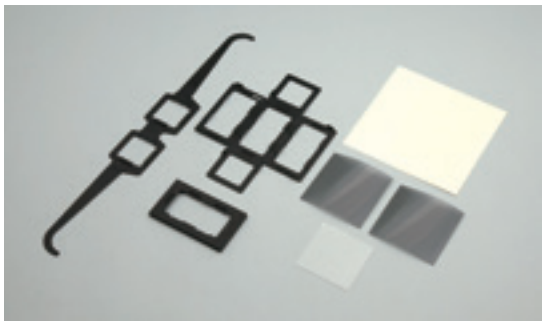
Disk (round x 6, hexagonal x 2)	8
Spinning Top	2

#196470

Polarizing Film Magic

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions when assembled: Box W 96 x H 56 x D 58 mm (3.8 x 2.2 x 2.3"), glasses W 143 x H 130 x D 50 mm (5.6 x 5.1 x 2")(when assembled)
■ Materials: PP ■ Weight: 154 g

Explore the wonders of polarizing film!
A total of five fun experiments!



★ Disclaimer: All products and information are subject to change without prior notice.

Study Guide inside!

An everyday object reveals a hidden rainbow!

Be amazed as a regular plastic spoon gets filled with all the colors of the rainbow!

Transparent stickers turn into splashes of color! But why?

Experiment
Make your very own stained glass!

What can you see if you look at the surface of the water or a window through polarized glasses?

Experiment
Make your own and find out!

P.58 ➡

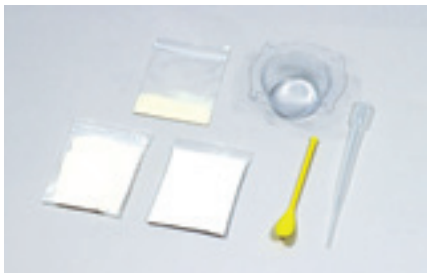
Chemistry

#198223

Solid Water

■ Package dimensions:
W 340 x H 235 x D 40 mm (14 x 9.3 x 1.6")
■ Dimensions: Measuring Spoon:
W 125 x H 16 x D 12 mm (5 x 0.6x 0.5"),
Plastic Dish: dia. 80 x 27 mm (dia. 3.1 x 1.1")
■ Materials: Measuring Spoon: ABS, Plastic Dish: PVC
■ Weight: 114 g

Perform amazing experiments with water as you've never seen it before!



Contents

Sodium Alginate	1
Calcium Lactate	1
Measuring Spoon	1
Dropper (2 ml)	1
Fluorescent Powder	1
Plastic Dish	1

★ Disclaimer: All products and information are subject to change without prior notice.

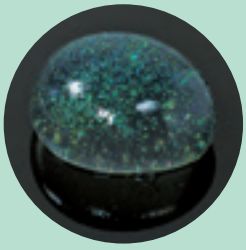
Make Rainbow Beads!

Add glitter or rainbow beads to your sodium alginate solution. Now soak it in your calcium alginate solution and your water will really pop!

★ You'll need to provide your own glitter and paint!

Give Your Water Some Personality!

This one has glitter!



And this one uses the rainbow beads you just made!

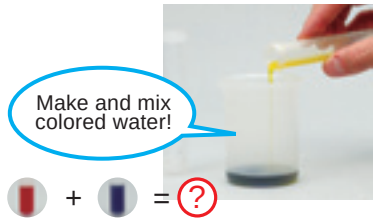
#196409

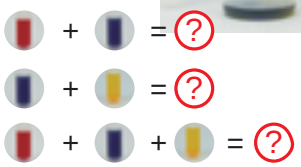
Liquid Colors

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Dimensions: Test tube (15 ml) dia. 17 x 101 mm (0.7 x 4.0"), Test tube lid dia. 23 x 11 mm (0.9 x 0.4"), Test tube stand W 160 x H 50 x D 67 mm (6.3 x 2.0 x 2.6"), Measuring spoon W 125 x D 16 x H 12 mm (4.9 x 0.6 x 0.5"), Dropper dia. 13 x 150 mm (0.5 x 5.9"), Beaker dia. 56 x 71 mm (2.2 x 2.8")
■ Materials: Test tube (15 ml) (PP), Beaker (PP), Test tube stand (ABS), Measuring spoon (ABS) ■ Weight: 238 g

Study Guide inside! P.51 ➡

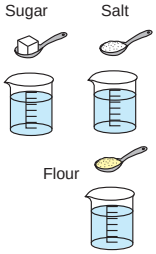
Colored water experiment





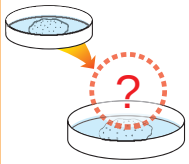
Have fun and learn about mixing, dissolution, saturation, separation, and evaporation.

① Which one will dissolve?

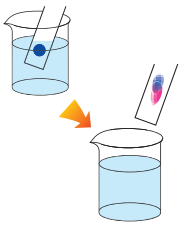


② Which will dissolve faster, salt or sugar?

③ What happens if you allow the salt water to evaporate?



④ What happens if you put ink in the water?



★ Disclaimer: All products and information are subject to change without prior notice.

#196402

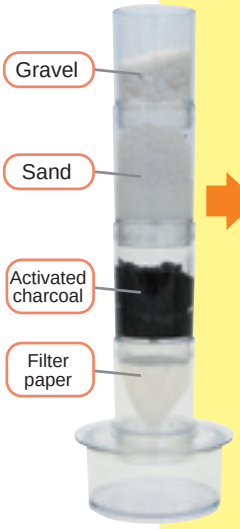
Water Purification Kit

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Dimensions when assembled: Filtration kit dia. 70 x 216 mm (2.8 x 8.5") ■ Materials: Transparent part (AS), Black part (PP) ■ Weight: 374 g

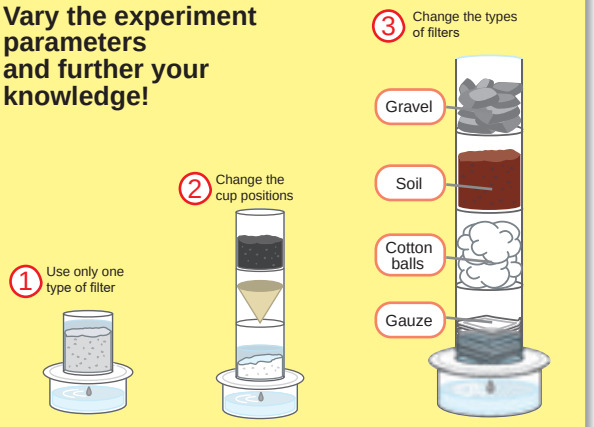
Learn two different techniques for purifying water!

Study Guide inside! P.51 ➡

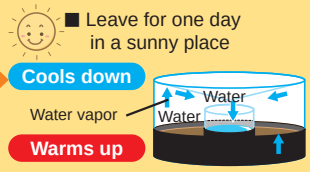
Filtration



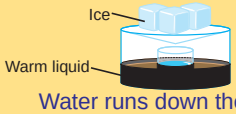
Vary the experiment parameters and further your knowledge!



Distillation



■ Perform the experiment indoors if it's cold or raining



Water runs down the inclined surface and collects in the container.

★ Disclaimer: All products and information are subject to change without prior notice.

#196432

Budding Crystals

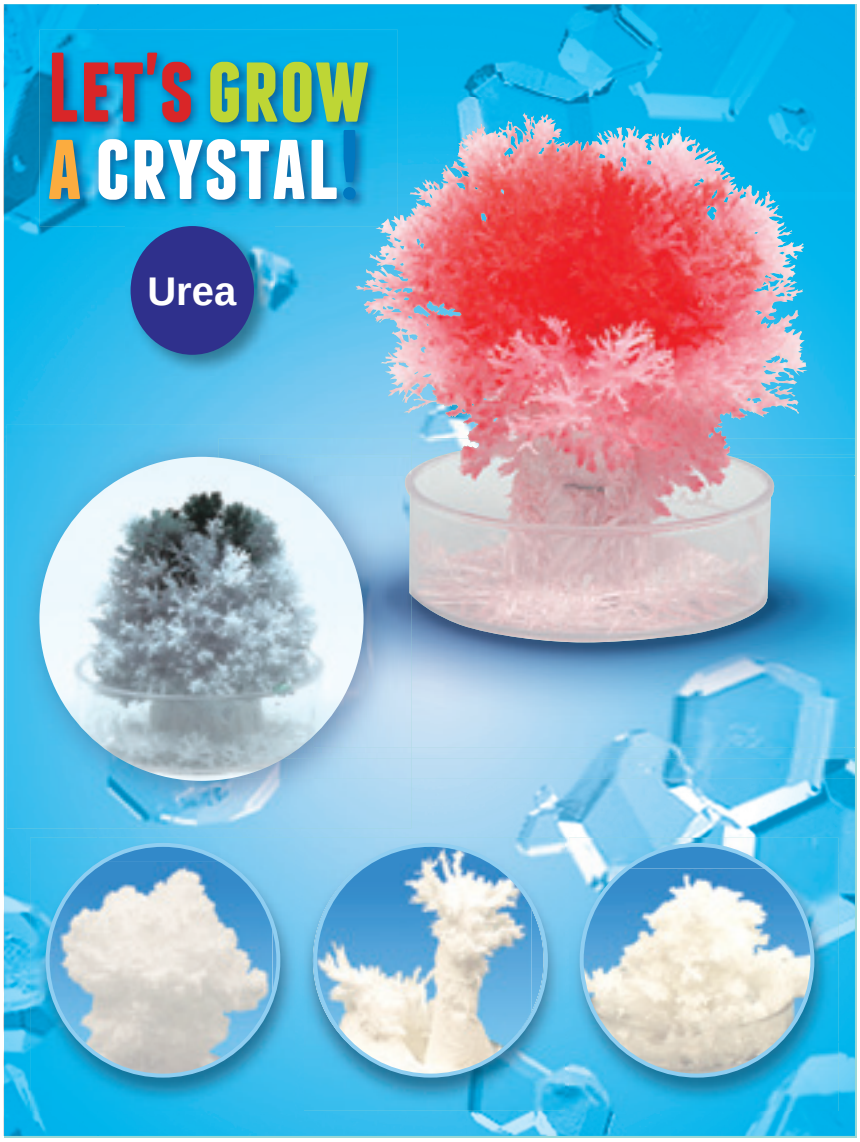
■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions: Test tube dia. 17 x 101 mm (0.7 x 4"), Test tube lid dia. 23 x 11 mm (0.9 x 0.4"), Measuring spoon W 125 x H 16 x D 12 mm (4.9 x 0.6 x 0.5"), Filter paper dia. 70 mm (2.8"), Urea 120 g, PVA glue dia. 32 x 114 mm (1.3 x 4.5") 60 g , Petri dish dia. 80 x 25 mm (3.1 x 1")
■ Materials: Test tube (PP), Measuring spoon (ABS), Petri dish (GPPS, general purpose polystyrene), PVA glue container (PE)
■ Weight: 360 g

You can make many different types of crystals!

Study Guide inside!

Contents

PVA glue ····· 1
Test tube ····· 1
Petri dish ····· 3
Urea ····· 1
Filter paper ····· 10
Measuring spoon ····· 1
String ····· 1



① *Reactions and heat*

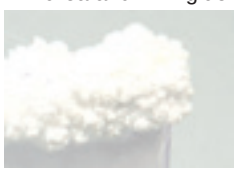
Instantly experience an endothermic reaction!

② *How crystals form*

Make your own treasure trove of crystals!

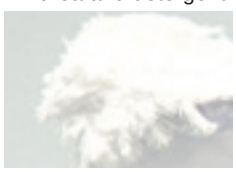
③ *Change due to conditions*

1 Crystals made from urea and PVA glue



The edges are round.

2 Crystals made from urea and detergent



The edges are angular.

④ *Make crystals from household substances*

What happens if you make a crystal using salt?

P.50 ➡ ★ Disclaimer: All products and information are subject to change without prior notice.

#196433

Unmixables Water & Oil

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions: Test tube (15ml) dia. 17 x 101 mm (0.7 x 4"), Foaming agent dia. 17 x 15 mm (0.7 x 0.6"), Test tube stand dia. 160 x 50 x 67 mm (6.3 x 2 x 2.6") ■ Materials: Test tube, Joint (PP), Test tube stand (ABS) ■ Weight: 205 g

Use test tubes to experiment with the properties of oil and water!

Study Guide inside!

P.50 ➡

★ Disclaimer: All products and information are subject to change without prior notice.

Make a lava lamp!

Use your newfound knowledge of chemistry to make mysterious phenomena!

Make your own oil clock!

Learn density with an oil clock!

#196439

Make Your Own Litmus Paper

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions: Test tube dia. 17 x 101mm (0.7 x 4"), Beaker dia. 56 x 71 mm (2.2 x 2.8"), Test tube stand W 160 x H 50 x D 67 mm (6.3 x 2 x 2.6"), Measuring spoon W 125 x H 16 x D 12 mm (4.9 x 0.6 x 0.5"), Dropper dia. 13 x 150 mm (0.5 x 5.9") ■ Materials: Test tube, Beaker, Funnel (PP), Test tube stand, Measuring spoon (ABS), Dropper (PE) ■ Weight: 242 g

Use a magical powder to make your own litmus paper!

Study Guide inside!

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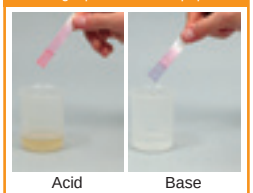
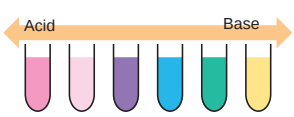
★ Disclaimer: All products and information are subject to change without prior notice.

Shows acidity/basicity with just a single piece of litmus paper!



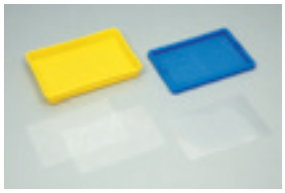
The color of the magic powder changes, showing the strength of the acid/base state!



#198019

Paper Making Kit

■ Package dimensions: W 82 x H 35 x D 22 mm (3.2 x 1.4 x 0.9") ■ Dimensions: Tray 182 x 130 mm (7.2 x 5.1") ■ Materials: Tray, Paper-making frame (PP), Screen (PE), Transparent board (PET) ■ Weight: 77 g



Make paper from milk cartons!

★ Disclaimer: All products and information are subject to change without prior notice.

Example

Biology

BEST SELLER!

#093569

Transforming Picture Cube (Human Anatomy)

■ Package dimensions:
W 142 x H 175 x D 35 mm (5.6 x 6.9 x 1.4") header 30 mm (1.2") ■ Dimensions: As a rectangular body W 36 x H 72 xD 144 mm (1.4 x 2.8x 5.7"), as a cube W 72 x H 72 x D 72mm (2.8 x 2.8x 2.8") ■ Weight: 71 g

Use a unique transforming cube to study the structure of the human body!

Learn about the skeleton, internal organs, muscles, brain, and much more!

★ Disclaimer: All products and information are subject to change without prior notice.

#198105

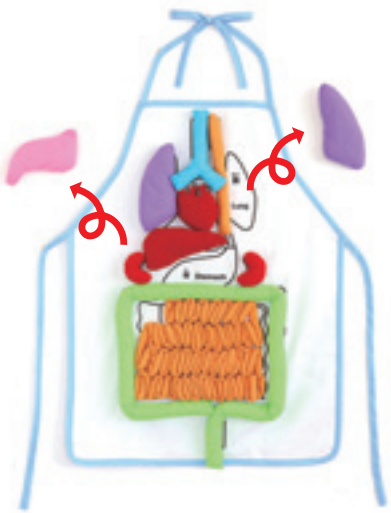
Anatomy Apron

■ Package dimensions:
W 310 x H 250 x D 95 mm (12.2 x 9.8 x 3.7")
■ Dimensions: Total
640 x 510 mm (25.2 x 20.1"), Cord 520 mm (20.5")
■ Materials: Cotton, polyester
■ Weight: 269 g

Learn about organs using fun fabric models!

Every part is detachable for hands-on learning!

Contents
Apron, Fabric models
(Lung, stomach, small intestine, large intestine, liver, kidney, heart, esophagus, trachea)



Open the heart and see how it's divided into four chambers!

★ Disclaimer: All products and information are subject to change without prior notice.

★ Actual product may vary from the picture in color and shape.

#196429

Model Eye with Liquid Lens

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Dimensions:
Main body W 110 x H 110 x D 115 mm (4.3 x 4.3 x 4.5"),
Lens stand with lens installed W 90 x H 35 x D 80 mm
(3.5 x 1.4 x 3.1")
■ Materials: ABS, PMMA, PP, PU, PVC, PET, paper
■ Weight: 243 g

Faithfully reproduces the inner workings of the eye!

Study Guide inside!

Switch lenses to see the difference between nearsighted and farsighted vision!

★ Disclaimer: All products and information are subject to change without prior notice.

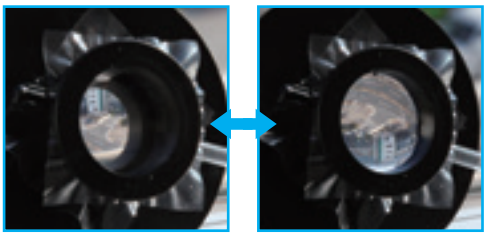
P.48➡

Produces a clear and colorful image!

The image will be upside down and reversed, as on a real retina!

What is a liquid lens?

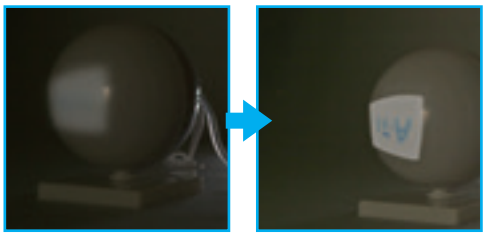
A lens whose focus can be adjusted by adding or removing water.



Remove water → Concave　　Add water → Convex

Use the lenses to learn about vision problems

The lens will bring the image into focus!



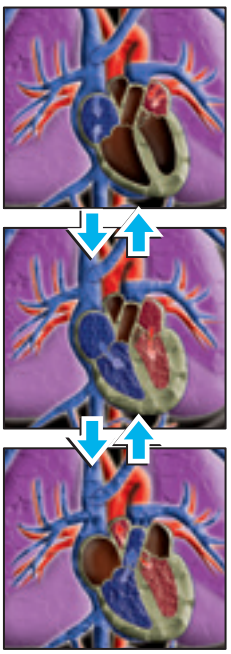
#197811

Motion Card (Heart)

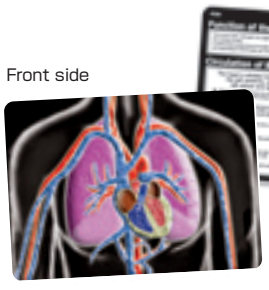
■ Package dimensions: W 180 x H 250 x D 1 mm (7.1 x 9.8 x 0.04") ■ Dimensions: W 250 x H 180 x D 0.55 mm (9.8 x 7.1 x 0.02″) ■ Materials: PP, paper ■ Weight: 30 g

Turn the card and see how the heart pumps blood through the body!

Flip it over to learn about blood circulation and the structure of the heart!



Front side



Back side

★ Photos are for illustrative purposes only.

#197812

Motion Card (Human Body)

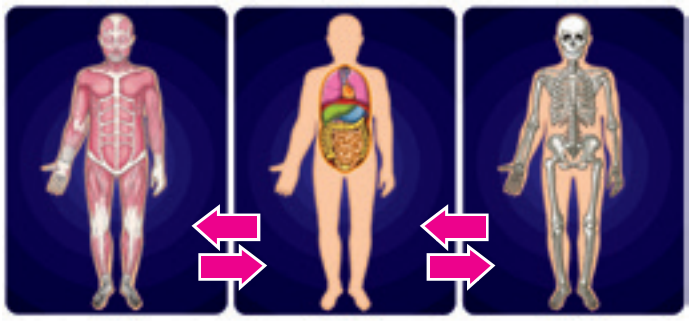
■ Package dimensions:
W 250 x H 180 x D 0.7 mm (9.8 x 7.1 x 0.03")
■ Dimensions: W 250 x H 180 x D 0.55 mm
(9.8 x 7.1 x 0.02″)
■ Materials: PET ■ Weight: 30 g

Back side

Turn it this way and that way to find a skeleton, muscles, and organs!

Flip it over and find every part clearly labeled!

Front side



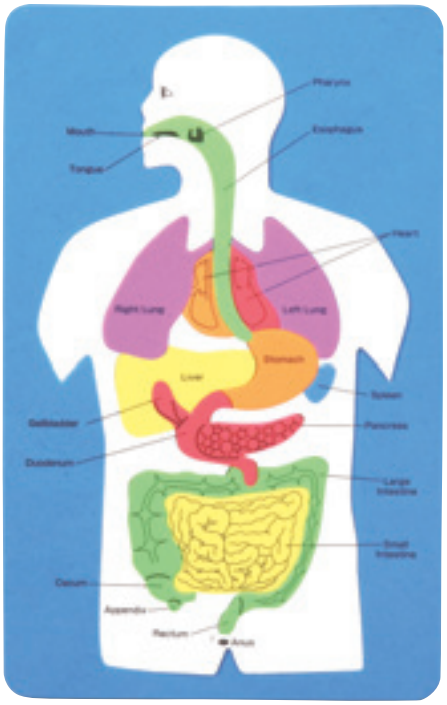
#198200

EVA Human Anatomy Puzzle

■ Package dimensions:
W 200 x H 330 x D 8 mm
(7.9 x 13 x 0.3")
■ Dimensions:
W 177 x H 7.5 x D 280 mm
(7 x 0.3 x11")
■ Materials: EVA ■ Weight: 50 g

Learn anatomy with this soft, colorful puzzle!

15 pcs Assorted colors



★ Disclaimer: All products and information are subject to change without prior notice.

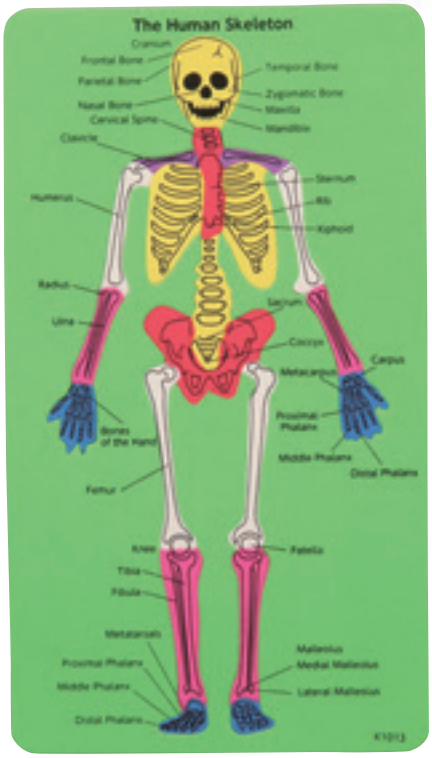
#198207

EVA Human Skeleton Puzzle

22 pcs Assorted colors

■ Package dimensions :
W 340 x H 170 x D 7 mm
(13.4 x 6.7 x 0.3")
■ Dimensions:
W 280 x H 158 x D 7 mm
(11 x 6.2 x 0.3")
■ Materials: EVA ■ Weight: 45 g

Learn the names of the bones in the human body!



★ Disclaimer: All products and information are subject to change without prior notice.

#196425

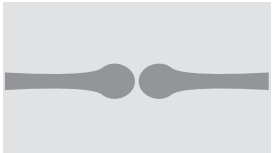
Bone Assembly

30cm (11.8") tall!

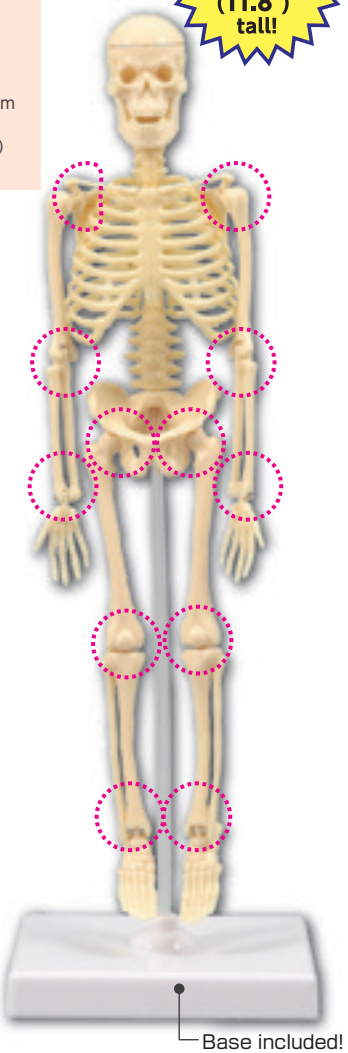
■ Package dimensions:
W 165 x H 225 x D 60 mm
(6.5 x 8.9 x 2.4")
■ Dimensions:
Bone Assembly W 70 x H 35 x D 300 mm
(2.8 x 1.4 x 11.8"),
Base 105 x 105 x 25 mm (4.1 x 4.1 x 1")
■ Materials: PP, ABS ■ Weight: 379 g

Study different types of joints.

The joints move just like a real skeleton!



Understand the relationships between different parts of the body by using this detailed model!



Base included!

Study Guide inside! P.48➡

★ Disclaimer: All products and information are subject to change without prior notice.

#198018

8-30 Tele/Microscope

- Package dimensions: W 181 x H 90 x D 19 mm (7.1 x 3.5 x 0.7")
- Dimensions: dia. 19 x 122-208 mm (0.75 x 4.8-8.2")
- Materials: ABS, PMMA (acrylic)
- Weight: 37 g

A two-in-one telescope and microscope!

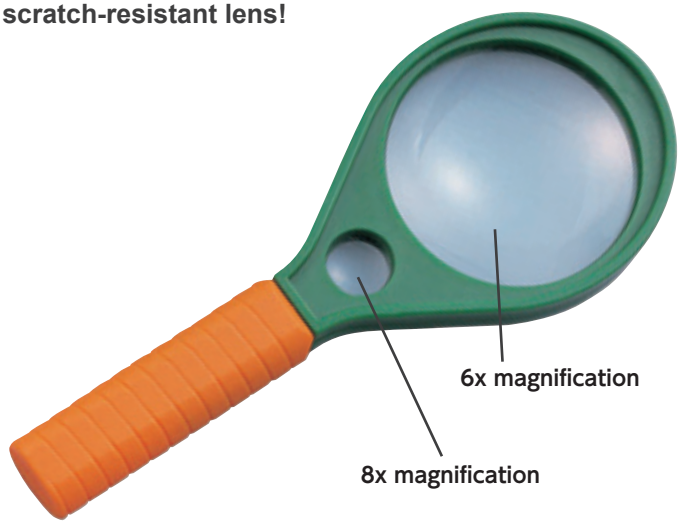
★ Disclaimer: All products and information are subject to change without prior notice.

#198029

Magnifying Glass (medium)

- Package dimensions: W 70 x H 172 x D 17 mm (2.8 x 6.8 x 0.7")
- Dimensions: Lens dia. 60 mm (2.4"), total length 170 mm (6.7")
- Materials: Glass, CAB
- Weight: 72 g

A magnifying glass with a tough, scratch-resistant lens!



★ Disclaimer: All products and information are subject to change without prior notice.

#198109

Build Your Own 150x Microscope

BEST SELLER!

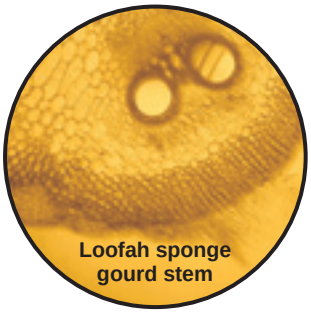
■ Package dimensions: W 128 x H 156 x D 80 mm (5.0 x 6.1 x 3.1")■ Dimensions: dia. 90 x 200 mm (3.5 x 7.9") (When connected to the light source)
■ Materials: ABS ■ Weight: 245 g

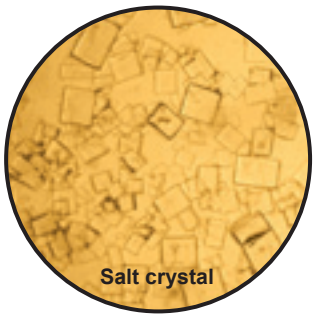
A powerful microscope with an LED light for clear and bright images!

Contents

Large Objective Lens (dia. 17 mm, PMMA)·····1
Small Objective Lens (dia. 14 mm, PMMA)·····1
Eyepiece Lens (Sleeve: dia. 21.5 mm x 38 mm)···1
Main Body (paper tube)·····5
Connecting Part·····1
Light Shield·····1
Battery-powered Lamp·····1
School Glue·····1
Glass Slide·····2

Decorated example





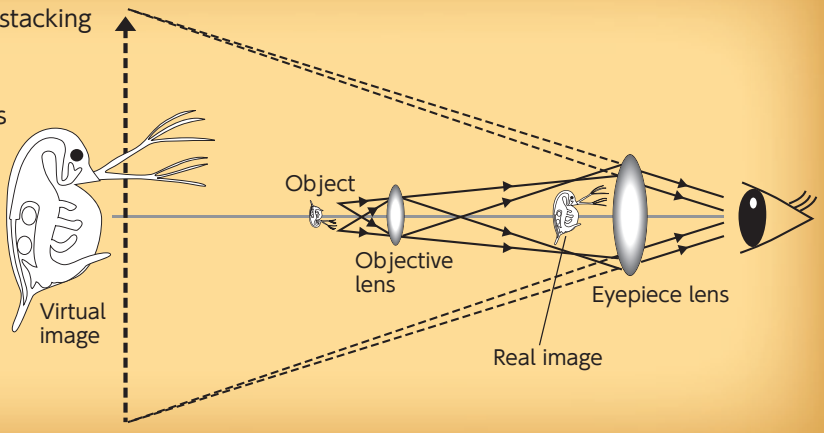
★ Disclaimer: All products and information are subject to change without prior notice.

Structure of Compound Microscopes

Compound microscopes magnify objects by stacking two kinds of convex lenses.

First, a specimen is enlarged through the lens closest to it (objective lens).
Next, this image is enlarged again by the lens near your eye (eyepiece lens). The image you see with your eye is not the actual specimen, but is instead a virtual image.

The principles of modern microscopes and Robert Hooke's microscope are the same.



#196412

Build Your Own Microscope 300x

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Dimensions when assembled: W 74 x H 96 x D 250 mm (2.9 x 3.8 x 9.8")
■ Materials: Main body (ABS), Lens (PMMA)
■ Weight: 221 g

Build your own microscope and explore your world from a new perspective!

Study Guide inside!

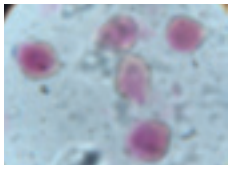
★ Disclaimer: All products and information are subject to change without prior notice.

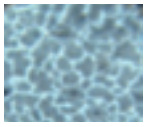
Learn how to use a microscope while improving your knowledge of biology!

What is this?

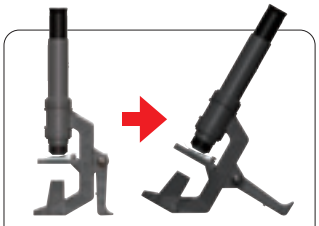
A Soy sauce
B Vinegar

What are these grains found on petals?





Why can butterflies fly with wet wings?



Tilting stand for easy observations!

LED light for clear visibility!

P.44 ➡

#196415

Bacteria Farm

■ Package dimensions:
W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Dimensions: Measuring spoon W 125 x H 16 x D 12 mm (4.9 x 0.6 x 0.5"), Beaker dia. 56 x 76 mm (2.2 x 3"), Cultivation plate W 85 x H 127 x D 23 mm (3.3 x 5 x 0.9"), Small magnifier dia. 39 x 67 mm (1.5 x 2.6"), Cotton swab 75 mm (3"), Syringe dia. 29 x 92 mm (1.1 x 3.6")
■ Materials: Beaker (PP), Small magnifier (CAB, glass), Cotton swab (PP), Cotton, Syringe (PP), rubber, Measuring spoon (ABS), Cultivation plate (PS) ■ Weight: 209 g

Study Guide inside!

P.45 ➡

★ Disclaimer: All products and information are subject to change without prior notice.

Observe bacteria that are invisible to the naked eye!

12 sections for easy comparison!

One container serves as 12 culture mediums.

Two-step experimentation!

<Bacteria sample from an unwashed hand>

1 

Dissolve bouillon and vegetable gelatin in water, then heat it in a microwave.

2 

Use the included syringe to add gelatin to the cultivation plate.

3 

At first

4 

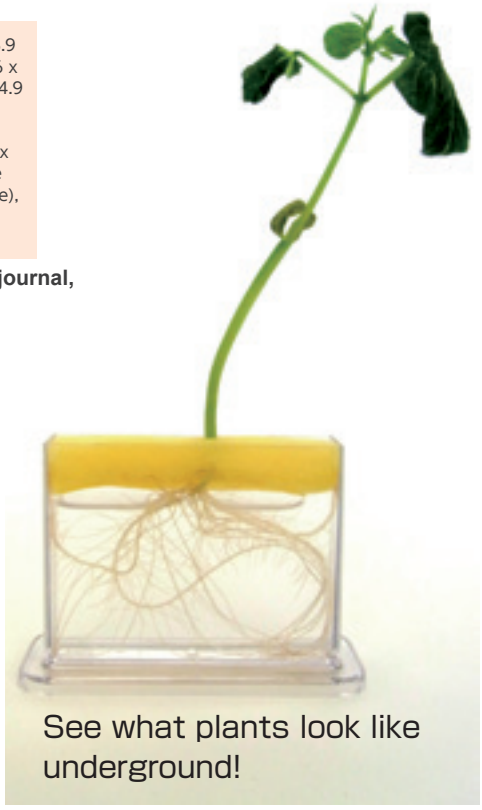
After 72 hours

#196418

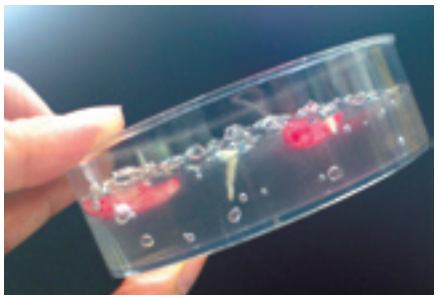
Roots n' Shoots

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions: Clear observation tank W 106 x H 36 x D 75 mm (4.2 x 1.4 x 3"), Spoon W 125 x H 16 x D 12 mm (4.9 x 0.6 x 0.5"), Petri dish dia. 80 x 25 mm (3.1 x 1"), Dropper dia. 13 x 150 mm (0.5 x 5.9"), Mini magnifying glass dia. 16 x 67 mm (0.6 x 2.6"), Sponge W 16 x H 87 x D 20 mm (0.6 x 3.4 x 0.8") ■ Materials: Clear observation tank (PS), Sponge (polyurethane), Petri dish (PS), Polymer (sodium polyacrylate), Spoon (ABS), Dropper (PE), Mini magnifier (glass, CAB) ■ Weight: 201 g

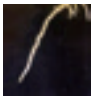
The book includes experiments, an observation journal, and instructions on how to use the science kit!



See what plants look like underground!

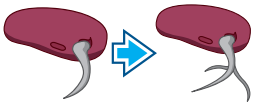


Watch the roots in the transparent tank!



The clear, narrow transparent observation tank allows you to see even tiny root hairs.

Clear observation of each individual part of the plant



Germination Growth

See how a kidney bean grows!

Study Guide inside!
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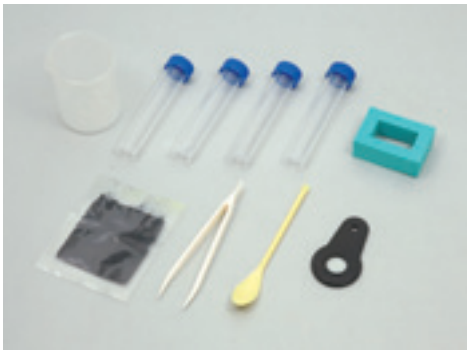
★ Disclaimer: All products and information are subject to change without prior notice.

#196420

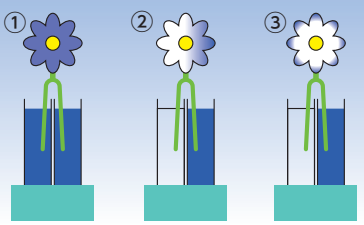
Anatomy of a Plant

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions: Beaker dia. 56 x 76 mm (2.2 x 2.8"), Test tube (15 ml) dia. 17 x 101 mm (0.7 x 4"), Cap dia. 23 x 11 mm (0.9 x 0.4"), Measuring spoon W 125 x H 16 x D 12 mm (4.9 x 0.6 x 0.5"), EVA test tube holder W 45 x H 38 x D 20 mm (1.8 x 1.5 x 0.8), Tweezers W 135 x H 11 x D 9 mm (5.3 x 0.4 x 0.4"), Magnifying glass (small) dia. 16 x 67 mm (0.6 x 2.6") ■ Materials: Test tube, Cap, Beaker (PP), Tweezers, Measuring spoon (ABS), Magnifying glass (small) (glass, CAB), Test tube holder (EVA) ■ Weight: 175 g



Multi-purpose graduated plastic tube!

What happens If you split the stem of a white flower in half and put one side in tap water and the other in blue water?



① Both the flower and the tap water turn blue.
② Half of the flower on the blue water side turns blue.
③ Only the edge of the petals turn blue.

What happens if you put vegetables in colored water? Find interesting patterns inside.

Study Guide inside!
P.47 ➡

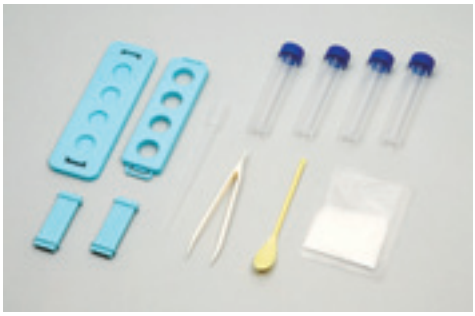
★ Disclaimer: All products and information are subject to change without prior notice.

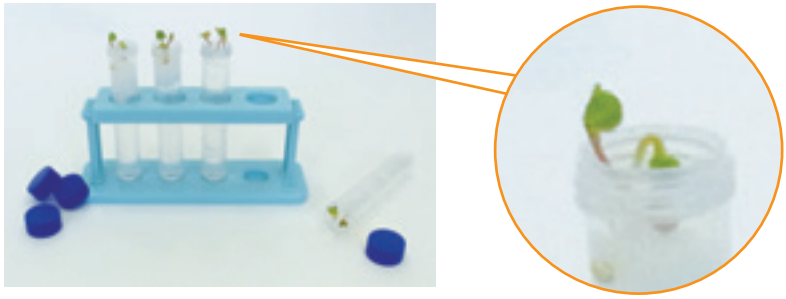
#196421

Sprout Garden

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions: Test tube (15 ml) dia. 17 x 101 mm (0.7 x 4"), Cap dia. 23 x 11 mm (0.9 x 0.4"), Test tube stand W 160 x H 50 x D 67 mm (6.3 x 2 x 2.6") , Measuring spoon W 125 x H 16 x D 12 mm (4.9 x 0.6 x 0.5"), Dropper dia. 13 x 150 mm (0.5 x 6"), Tweezers W 135 x H 11 x D 9 mm (5.3 x 0.4 x 0.4") ■ Materials: Test tube (PP), Test tube stand, Tweezers, Measuring spoon (ABS), Dropper (PE) ■ Weight: 208 g

Perform experiments and see the vitality of plants!





Water-absorbent polymer prevents spills!

Never worry about making a mess if the tube tips over!

The included free-standing test tube allows a wider range of experimental conditions.

Use different conditions in each test tube and find out what conditions are required for plants to grow by adjusting the amount of water, nutrition, and light they receive!

Study Guide inside!

P.47 ➡

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#196422

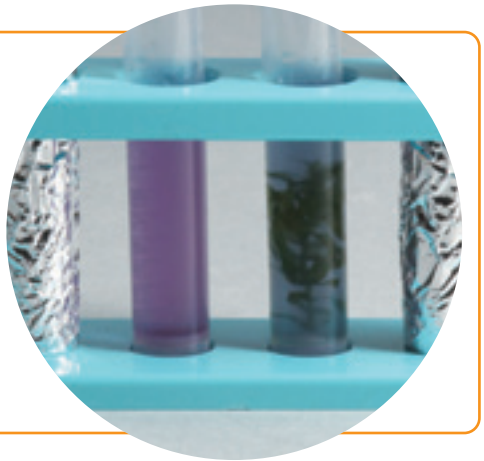
Photosynthesis in a Tube

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4") ■ Dimensions: Test tube (15 ml) dia. 17 x 101 mm (0.7 x 4"), Cap dia. 23 x 11 mm (0.9 x 0.4"), Test tube stand W 160 x H 50 x D 67 mm (6.3 x 2 x 2.6"), Measuring spoon W 125 x H 16 x D 12 mm (4.9 x 0.6 x 0.5"), Tweezers W 135 x H 11 x D 9 mm (5.3 x 0.4 x 0.4"), Syringe dia. 29 x 92 mm (1.1 x 3.6") ■ Materials: Test tube (PP), Test tube stand, Tweezers, Measuring spoon (ABS), Syringe (rubber, PP) ■ Weight: 202 g

Watch photosynthesis take place in a matter of hours!

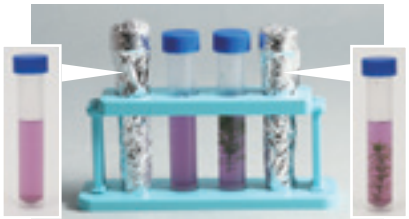
Observe photosynthesis!

- You can actually see the invisible process of photosynthesis taking place in a simple way!
- Add powder to the water and watch the magic happen!
- Clear results in only two hours!

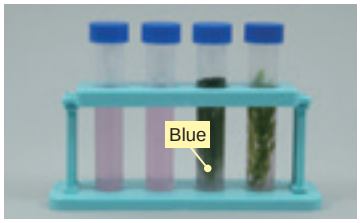


The color changes after only two hours of exposure to ultraviolet light!

Before the experiment



Experimental result



Study Guide inside!

P.47 ➡

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Astronomy

#198085

Build Your Own Telescope

■ Package dimensions: W 130 x H 310 x D 65 mm (5.1 x 12.2 x 2.6") ■ Dimensions: Objective lens dia. 34 mm (1.3"), Eyepiece lens sleeve: dia. 21.5 x 38 mm (0.8 x 1.5"), Main body approx. dia. 38 x 500 mm (1.5 x 19.7"), Main body with tripod attached approx. W 360 x H 500 x D 120 mm (14.2 x 19.7 x 4.7")
■ Materials: PMMA, wood, paper ■ Weight: 323 g

Contents

Objective Lens (dia. 34 mm, PMMA)	1
Eyepiece Lens (sleeve: dia. 21.5 x 38 mm)	1
Main Body (paper pipe)	8
Finder Connecting Part (wood)	1
Tripod Parts (wood)	3
Wing Nut	1
Hexagon Head Bolt	1
School Glue	1

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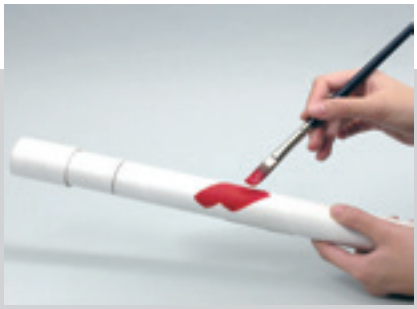

#198179

Space Kaleidoscope

■ Package dimensions: W 100 x H 200 x D 50 mm (3.9 x 7.9x 2.0") ■ Dimensions: dia. 42 x 154 mm (1.7 x 6.1")
■ Materials: Paper, PP, PVC ■ Weight: 57 g

Take a look into an infinite universe!

Contents

Paper Tube (dia. 39 x140mm)	1
Space Kaleidoscope Paper (140 x 125 mm)	1
Caps (Top/Bottom)	1
Tray (Top/bottom)	1
Mirror (30 x 140 mm)	3
Space Kaleidoscope Film(dia. 25 mm)	1

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★ Disclaimer: All products and information are subject to change without prior notice.

Assemble the body, install the Space Kaleidoscope film, and enjoy!

#197794

Constellation Playing Cards

■ Package dimensions: W 59 x D 88 x H18 mm (2.3 x 3.5 x 0.7") ■ Dimensions: Card 57 x 87 mm (2.2 x 3.4") (54 cards)
■ Materials: Paper ■ Weight: 85 g

P.68➡

★ Northern hemisphere constellations only.

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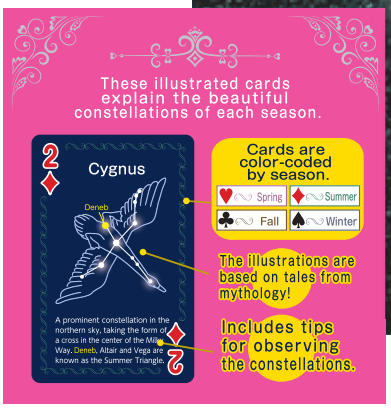
Illustrations straight from the world of mythology!



Earth Science

#198037

Advanced All-Purpose Thermometer

BEST SELLER!

■ Package dimensions: W 330 x H 40 x D 24 mm (13 x 1.6 x 0.9") ■ Dimensions: Stick thermometer dia. 6 x 300 mm (0.2 x 11.8"), Main body W 37 x H 325 x D 20 mm (1.5 x 12.8 x 0.8") ■ Materials: ABS, glass ■ Weight: 100 g

An easy-to-read thermometer with a range of -30 to 110℃!

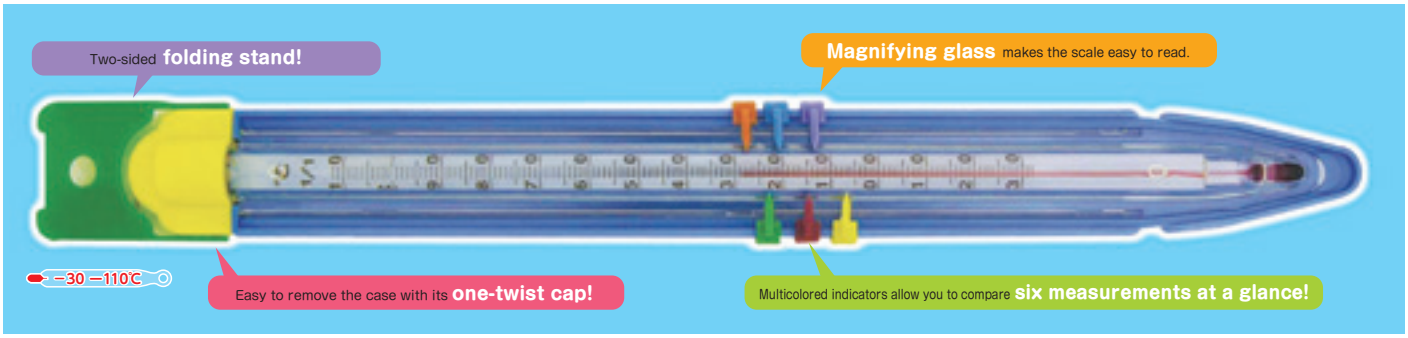
Use the cover to keep your thermometer safe while you measure ground temperatures!

Six Color Index Markers!

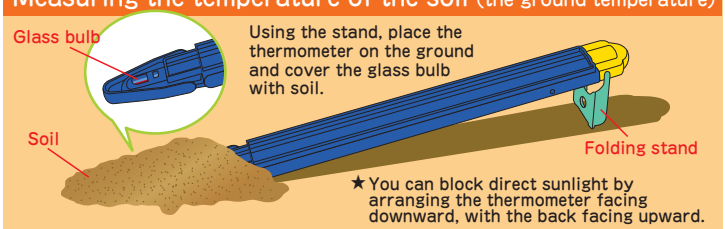
See temperature differences at a glance! Use up to six slides to measure daylight, shade, and more!

One-touch Cap!

Just twist to remove your thermometer!



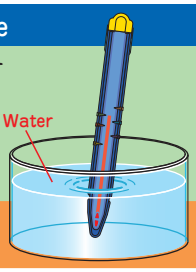
Measuring the temperature of the soil (the ground temperature)



Measuring water temperature

You can use the thermometer with or without the plastic case.

★ NOTE: When measuring the temperature of hot water, be sure to remove the plastic case from the thermometer.



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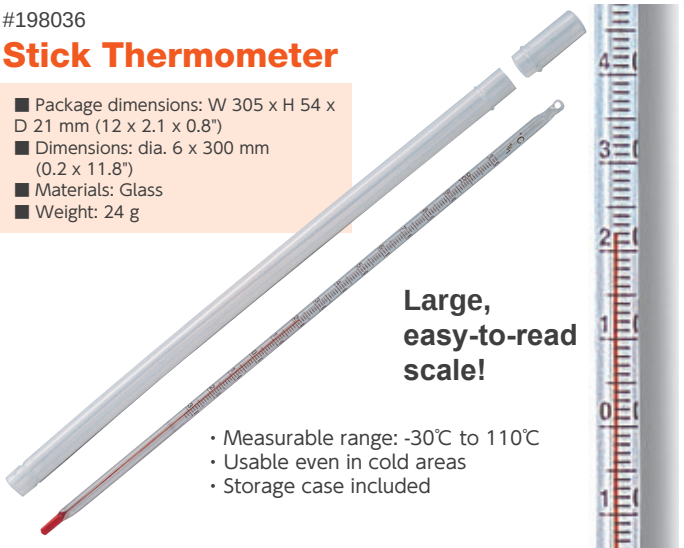
#198036

Stick Thermometer

■ Package dimensions: W 305 x H 54 x D 21 mm (12 x 2.1 x 0.8")
■ Dimensions: dia. 6 x 300 mm (0.2 x 11.8")
■ Materials: Glass
■ Weight: 24 g



Large, easy-to-read scale!

- Measurable range: -30℃ to 110℃
- Usable even in cold areas
- Storage case included

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#198142

Solar Filter - Glass

■ Package dimensions: W 92 x H 213 x D 10 mm (3.6 x 8.4 x 0.4")
■ Dimensions: W 160 x H 70 x D 7 mm (6.3 x 2.8 x 0.3")
■ Materials: Filter (Glass), Frame (PP) ■ Weight: 76 g

Protect your eyes from the sun's harmful rays!

DIN Standard EN169 Light shield degree 13

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#196449

Polarizing Microscope with Detachable Lenses

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Dimensions when assembled: W 200 x H 75 x D 100 mm (7.9 x 3 x 3.9")
■ Materials: ABS, PMMA, stainless steel ■ Weight: 167 g

Study Guide inside!

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Remove the lens and use it as a magnifying glass!

#196450

Weather Watcher

■ Package dimensions: W 165 x H 225 x D 60 mm (6.5 x 8.9 x 2.4")
■ Dimensions when assembled: W 85 x H 81 x D 260 mm (3.3 x 3.2 x 10.2")
■ Materials: PP, paper, rubber, ABS, PVC, copper
■ Weight: 207 g

Forecast the weather and make other basic observations!

Study Guide inside!

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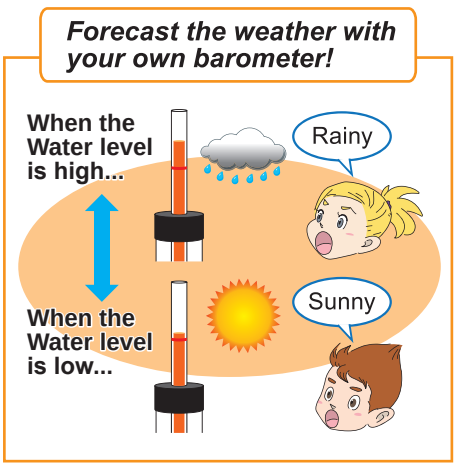

Make your own barometer

・Measure changes in atmospheric pressure (forecasting)

Thermometer and hygrometer

・Measure temperature and humidity

International Robotics and STEAM Competitions

It is our great privilege to help develop and promote cutting-edge international programs of exchange and cooperation in programming, robotics, and STEAM education.
A few years back Artec started and is now involved in a number of international educational events that include the following:

UNIVERSAL ROBOTICS CHALLENGE
ユニバーサル ロボティクス チャレンジ

Directed by an independent committee, the Universal Robotics Challenge is a more traditional programmable robotics tournament. The objective of the URC is to inspire children's interest in the field of robotics technology as they acquire new problem-solving skills through teamwork.



Asia STEAM Camp

Asia STEAM Camp is a unique collaboration connecting Artec and a multitude of schools in Japan and across Asia, directed and managed in cooperation with our partners and friends both locally and abroad.
The event focuses on bringing children from diverse backgrounds and cultures together to work in teams and tackle STEAM-themed challenges.



JUNIOR URC Universal Robotics Challenge XCHANGE

Universal Robotics Challenge Junior XChange

The Universal Robotics Challenge Junior XChange is an online, STEAM-focused exchange program for kindergartners, allowing young learners to solve STEAM challenges and share knowledge and culture regardless of language or location.



Award Winners!

Artec's products have won awards around the world, including multiple Creative Child Magazine Awards from America, the esteemed Taiwanese Golden Pin Design Mark, and the Good Toy Award in Japan.

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