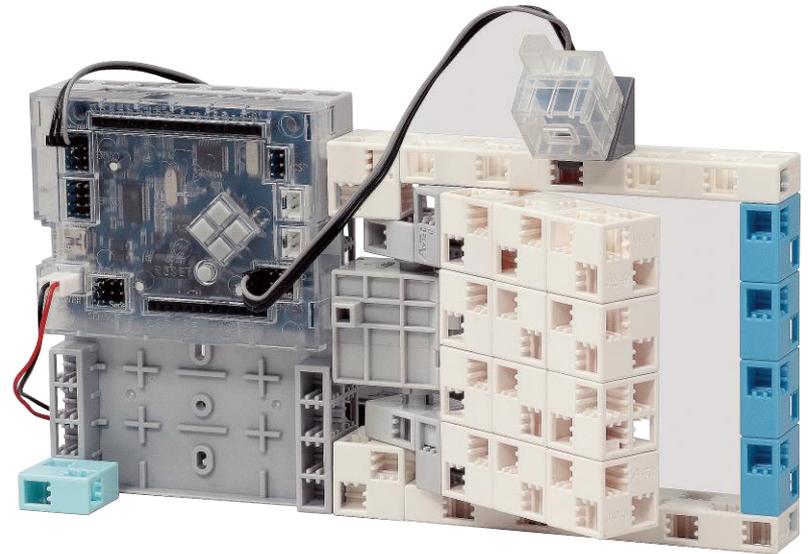


# Artec<sup>®</sup> Robo Education Set

Robotics  
&  
Coding for Fun!



<Example: Automatic Door with a Sensor>

# ArtecRobo Education Set



## About Artec Co., Ltd.

- Established in 1960, today Artec is Japan's largest educational materials and teaching aids manufacturer
- Our clientele includes over 113,000 educational institutions and more than 3,000 corporate clients in Japan alone
- Artec's products are now available in more than 65 countries around the world
- We can boast a lineup of over 9,000 original products with hundreds of new products being developed in-house every year



Osaka Head Office



Tokyo Branch Office



Osaka Logistics Center

Founded	Capital	Employees	Location
1960/4/5	40 million JPY	280	Head Office: Yao, Osaka Branch Office: Chiyoda, Tokyo Logistics Center: Yao, Osaka

## What is ArtecRobo?

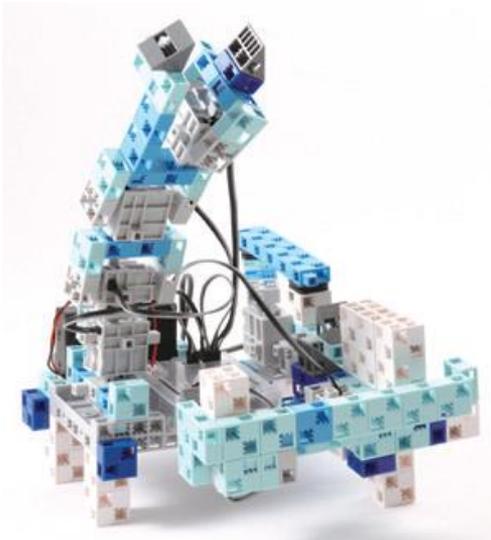
- ✓ **Arduino-based, open source programmable robot kit for Everyone**
- ✓ **Product Specs:**

MCU	ATmega168PA	
Flash ROM	16 KB (includes 0.5 KB for boot loader)	
SRAM	1 KB	
EEPROM	512 B	
Digital I/O pins (14 total)	DC Motor driver: D2, D3, D4, D5, D7, D8 Servomotor driver: D2, D4, D7, D8, D9, D10, D11, D12	
Analog input pins (8 total)	Push-button switches: A0, A1, A2, A3 Sensors: A0, A1, A2, A3, A4, A5, A6, A7	
Clock frequency	8 MHz	
Operating voltage	3.3V	
DC Motor driver IC	TB6552FNG (max. 1A)	
USB serial IC	PL2303TA	
Power Supply	USB	5V
	External power source	3.6V-16V (required when using Servomotor and DC Motor)
LED light	Power	Red
	D13	Green
	TX/RX	Yellow
Push-button switches	Shared with connectors A0, A1, A2, A3	

## What makes ArtecRobo stands out?

1. In house developed and patented Artec Blocks
2. Artec's very own STUduino board (Arduino-compatible)
3. Three levels of custom-made OPEN SOURCE programming environments

**Now also support coding with iOS devices and Android Tablets!**



\*Shown models are built with different ArtecRobo kits, not Education Set.

# ArtecRobo Education Set



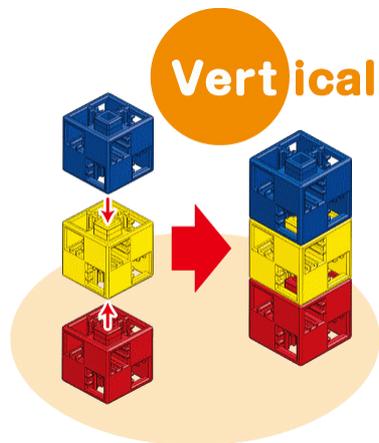
## 1. Original & Unique **ArTeC Blocks** (1/3)

**A new learning resource that defies convention!**



### • What are the Artec Blocks?

“Specially designed innovative cubes that you can make endless variety of shapes!”



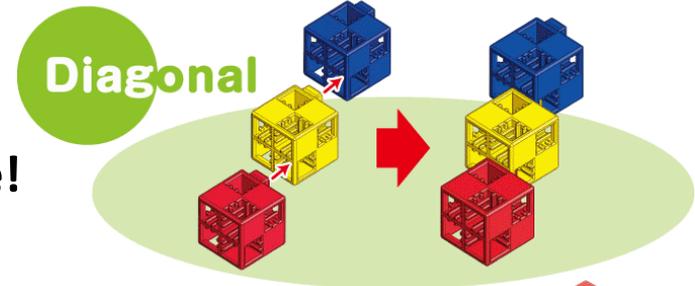
**Vertical**

**Front and back,  
top to bottom and  
side by side!**

**Connections you  
never thought possible!**

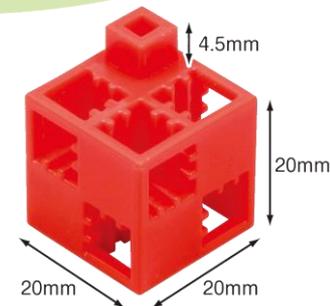


**Horizontal**



**Diagonal**

**Even diagonally!**



# ArtecRobo Education Set



## 1. Original & Unique **ArTeC Blocks** (2/3)

Conventional blocks



3 ways



24 ways



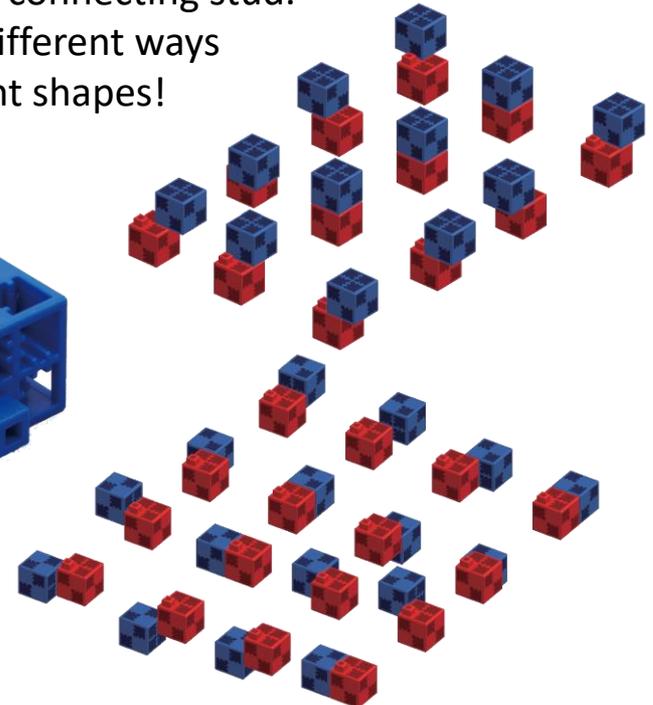
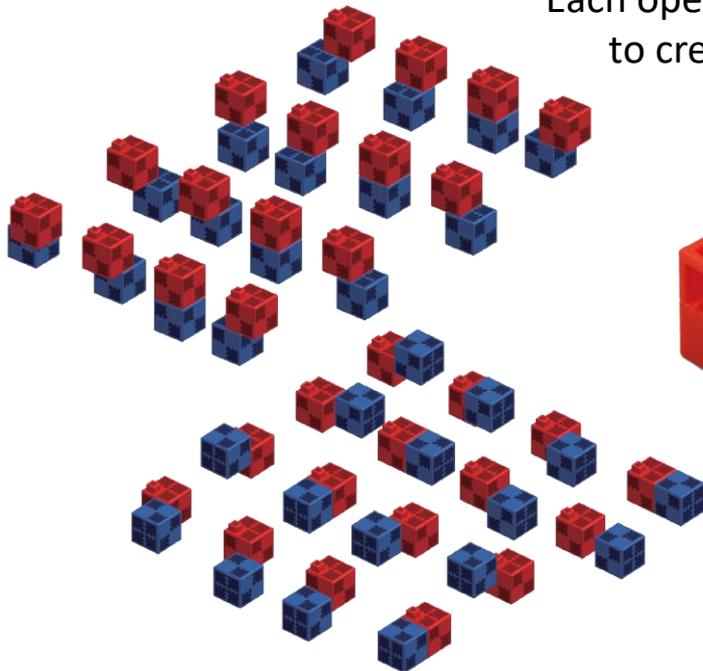
Artec Blocks connect in **60** different ways!!

### Let's do the math!

Each block has 15 openings and one connecting stud.

Each opening can connect in 4 different ways  
to create a wealth of different shapes!

$$15 \times 4 = \mathbf{60!}$$



# ArtecRobo Education Set



## 1. Original & Unique **Artec Blocks** (3/3)

- Safe: **CE**, **ASTM** and **ST** compliant!
- Winner of multiple awards!



2013	4 awards
2014	5 awards
2015	1 award

- Patents pending in 55 countries!

Japan	Patented	Registered designs
Australia	Patented	Registered designs
Korea	Patented	Registered designs
China	Patented	Registered designs
Taiwan	Patented	Registered designs
Canada	Patented	Registered designs
Europe(EPC)	Patented	Registered designs
United States	Patented	Registered designs
Russia	Patented	Registered designs

Singapore	Registered designs
Malaysia	Registered designs
India	Registered designs
Israel	Registered designs
Philippines	Registered designs
Thailand	Registered designs
Indonesia	Registered designs
Brazil	Registered designs



## 2. Studuino Board – Artec’s Original Arduino-compatible Board

- You don't need screws or solder to wire your Studuino!
- Just plug the parts in and you're ready to go
- Motor driver chip on board! – no more chunky motor driver shields!
- Standard Arduino pin layout helps you to expand your projects with widely available generic Arduino compatible parts without any modifications!

### Hardware

Studuino has built-in connectors for your motors, sensors, and LEDs.

#### Servomotor connector

The motor is ready to operate after a simple cable connection is made. Up to eight servomotors can be connected.

**x8**  
Servo motor  
max.



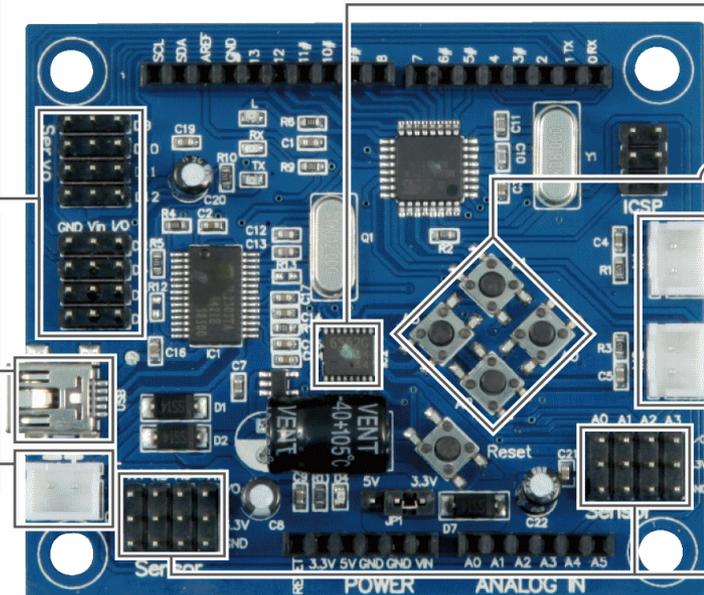
#### USB mini-B connector

USB mini-B cable is used for PC connection.  
★ It is necessary to use USB mini-B cable (not included) to connect to PC.



#### Power supply connector

Connects to the battery box.



#### DC motor IC connector

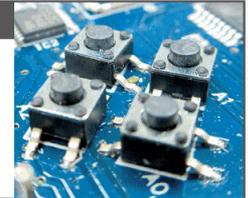
DC motor IC and connector are mounted on the board. Can operate up to two DC motors simultaneously.

**x2**  
DC motors  
max.



#### Push-button switch

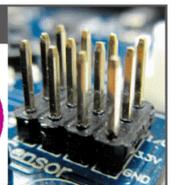
Up to four programmed motions are allocated for the switches.



#### Multi-purpose connector

Sensors, LEDs, and buzzers can be connected. Up to eight devices can be connected at once.

**x8**  
connector  
max.



# ArtecRobo Education Set



## 3. Programming Environment (1/2)

- No technical knowledge needed. Start your programming journey by dragging and dropping icons or convert your Scratch programs to Arduino to see what's going on under the hood!

### Programming Environments

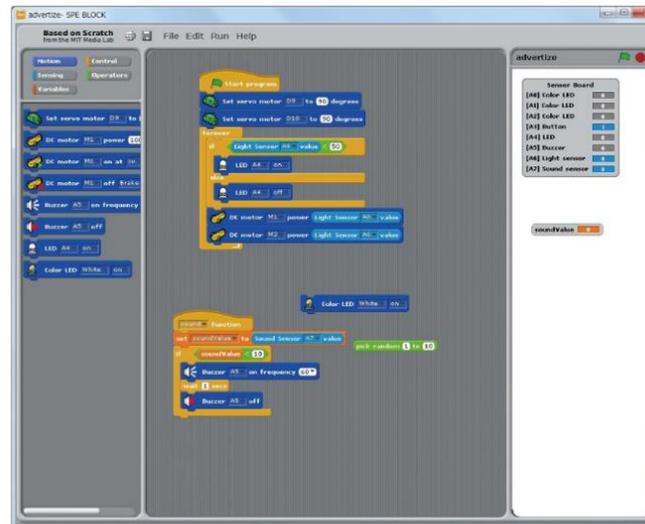
Choose the right software for you and download it for free from the Artec website.

#### Lv1 Icon Programming



Drag, drop, and create

#### Lv2 Block Programming



Built based on "Scratch"\*

#### Lv3 Arduino IDE



Convert and go deeper with Arduino

\*Originally Developed by MIT Media Lab

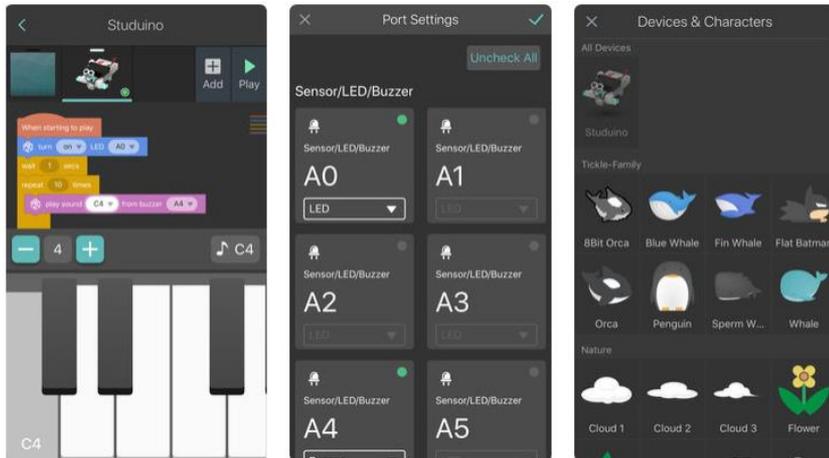
## 3. Programming Environment (2/2)

- Now you can program your ArtecRobo with your favorite tablet PCs!

For iPad and iPhone

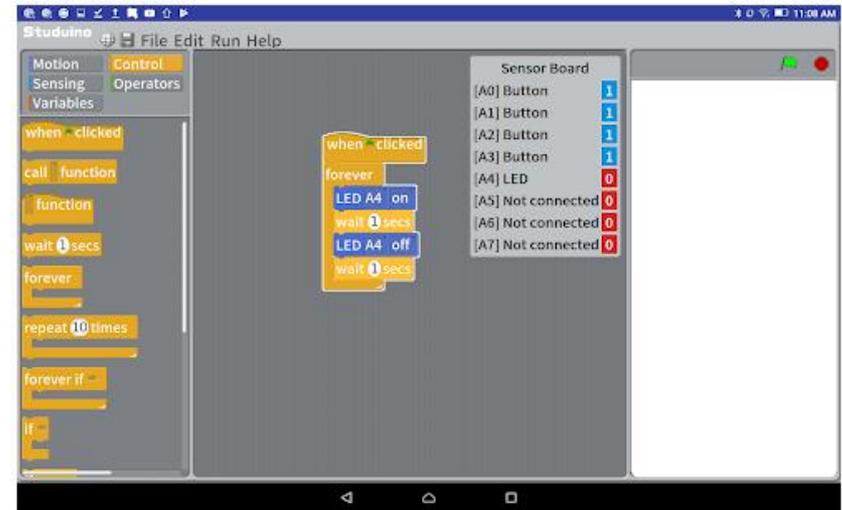


Tickle for Studuino



For Android Tablets

Studuino for Android



Block Programming style GUI with easy and comprehensive layouts!

Almost identical to a traditional Block Programming Environment of Studuino software for PC and Mac!

*\*need an optional Bluetooth(BLE) module*

# ArtecRobo Education Set



## Artec<sup>®</sup> Robo Education Set

A “**Special**” kit designed for primary schools.

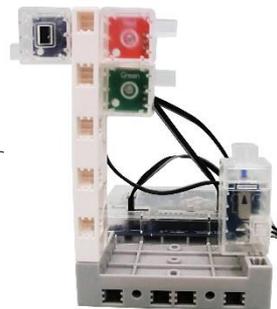


Teacher's Manual



Four Lesson booklets for Students

Easy to **teach**,  
Easy to **learn!**



1. Learn basics of programming with different sensors and actuators.
2. Lesson texts for 16 class hours included!  
(Four subjects x 4 classes for each subject)
3. Tutorial style step-by-step teacher's manual

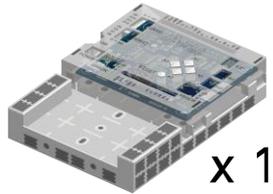
# ArtecRobo Education Set



## Contents

Artec® PAT.P

● Studuino



x 1

● Battery Box



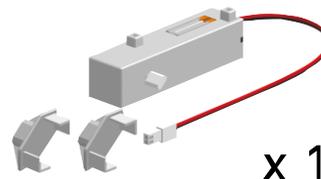
x 1

● USB Cable



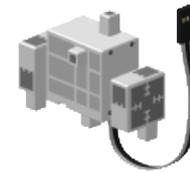
x 1

● DC Motor & Parts



x 1

● Servomotor



x 1

● Cables



x 5

● LEDs



Red x 1

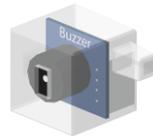


Green x 1



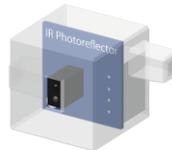
Blue x 1

● Buzzer



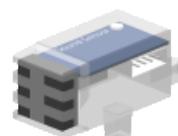
x 1

● IR Photorelector



x 1

● Sound Sensor



x 1

● Light Sensor



x 1

● Touch Sensor

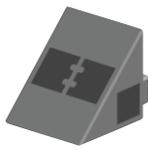


x 1

● Block Parts



x 18



x 2



x 1



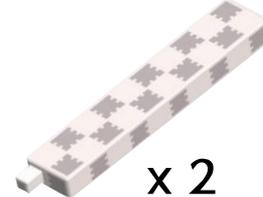
x 2



x 5



x 4



x 2



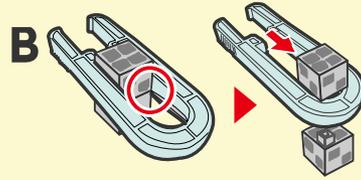
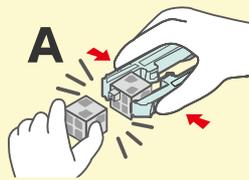
x 3



x 2

Block Remover

x 1



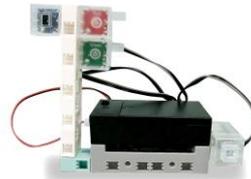
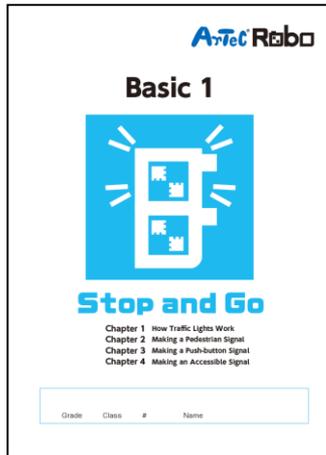
★Actual product may vary.

AA/LR6 AA/LR6 AA/LR6  
Battery AA / LR6 (1.5v) × 3 required

\*Battery Not Included

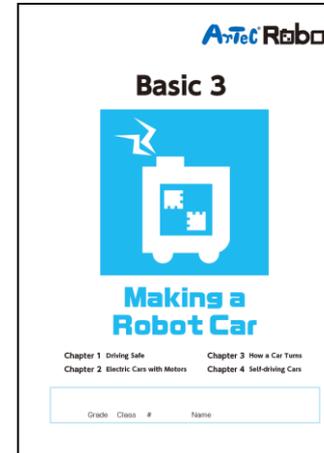
## Textbooks: Basic

\*Each chapter covers study for one school class hour.



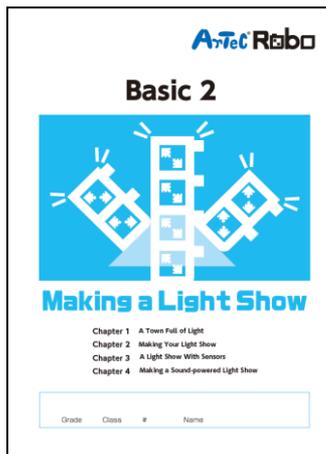
### Vol. 1: Stop and Go

1. How Traffic Signals Work
2. Making a Pedestrian Signal
3. Making a Push-button Signal
4. Making an Accessible Signal



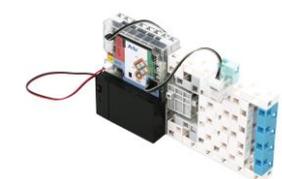
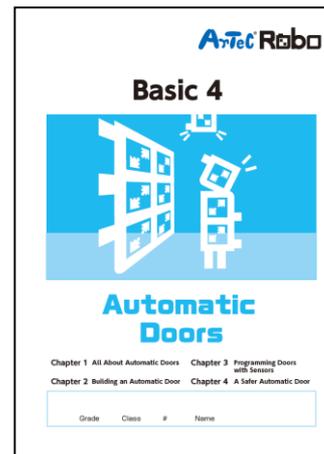
### Vol. 3: Making a Robot Car

1. Driving Safe
2. Electric Cars with Motors
3. How a Car Turns
4. Self-driving Cars



### Vol. 2: Making a Light Show

1. A Town Full of Light
2. Making Your Light Show
3. A Light Show with Sensors
4. Making Sound-powered Light Show



### Vol. 4: Automatic Doors

1. All About Automatic Doors
2. Building an Automatic Door
3. Programming Doors with Sensors
4. A Safer Automatic Door



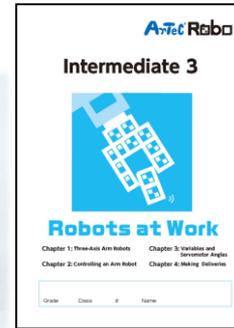
**NEW!!**

# Education Set Complete Edition



## Textbooks - Intermediate

\*Each chapter covers study for one school class hour.



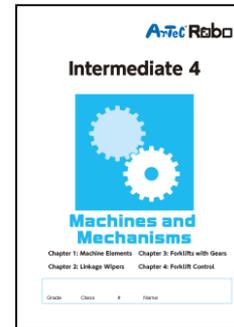
### Vol. 3: Robots at Work

1. Three-Axis Arm Robots
2. Variables and Servomotor Angles
3. Controlling an Arm Robot
4. Making Deliveries



### Vol. 1: Controlling Motor Cars

1. Driving with Two DC Motors
2. Self-Driving Systems
3. Collision Avoidance Systems
4. The Line Tracer



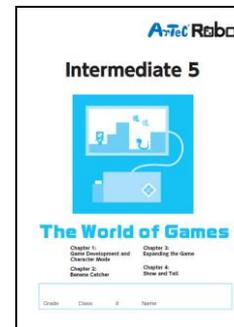
### Vol. 4: Machines and Mechanisms

1. Machine Elements
2. Linkage Wipers
3. Forklifts with Gears
4. Forklift Control



### Vol. 2: Electronic Instruments

1. Programming with Variables
2. Making a Guitar
3. An Electric Music Box
4. A Better Guitar



### Vol. 5: The World of Games

1. Game Development and character Mode.
2. Expanding the Game
3. Banana Catcher
4. Show and Tell

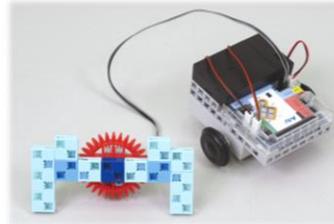
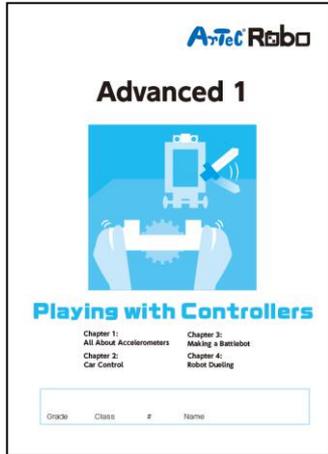
**NEW!!**

# Education Set **Complete Edition**



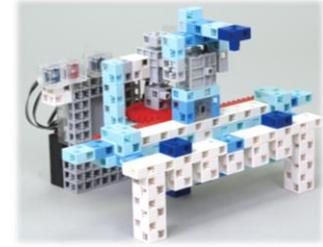
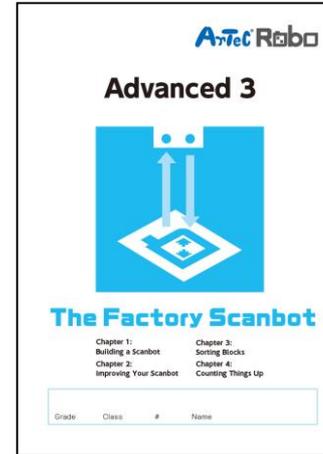
## Textbooks - Advanced

\*Each chapter covers study for one school class hour.



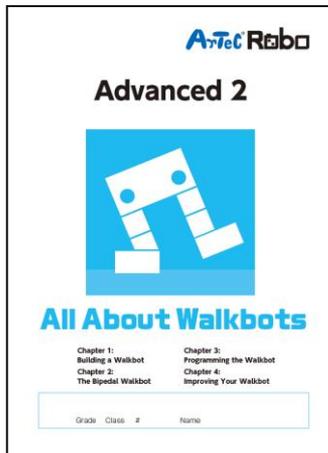
### Vol. 1: Playing with Controllers

1. All About Accelerometer
2. Making a Battlebot
3. Car Control
4. Robot Dueling



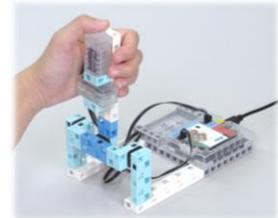
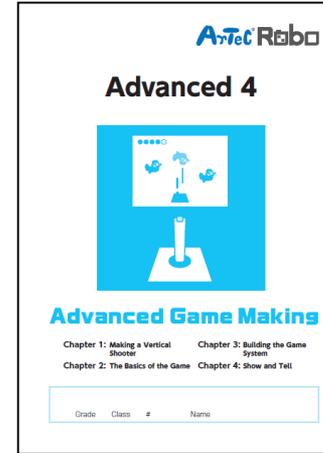
### Vol. 3: The Factory Scanbot

1. Building a Scanbot
2. Improving Your Scanbot
3. Sorting Blocks
4. Counting Things Up



### Vol. 2: All About Walkbots

1. Building a Walkbot
2. The Bipedal Walkbot
3. Programming the Walkbot
4. Improving Your Walkbot



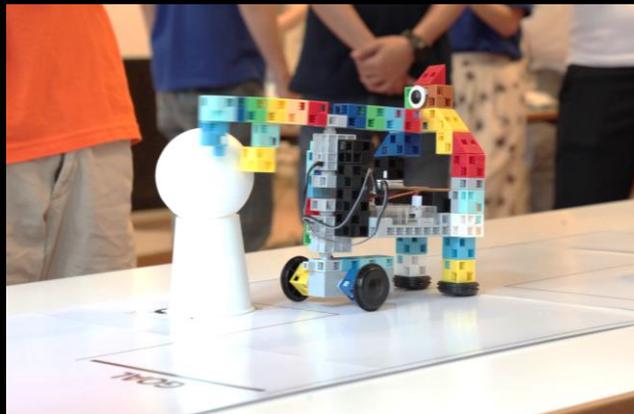
### Vol. 4: Advanced Game Making

1. Making a Vertical Shooter
2. The Basics of the Game
3. Building the Game System
4. Show and Tell

# ArtecRobo Education Set



Start preparing the children for the world of tomorrow **today!**



Thank you for your attention!