

EV3 SOFTWARE

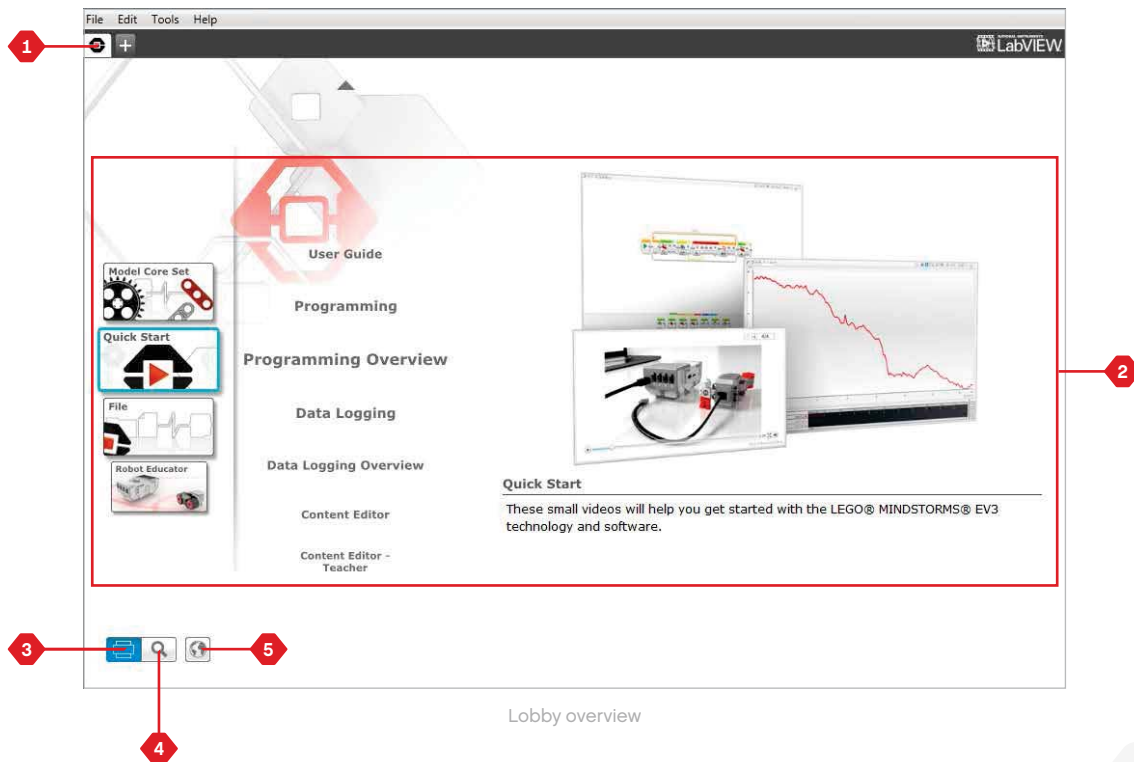
Lobby

Every time you open the EV3 Software, you will automatically start out in the Lobby area. The Lobby makes it easy to locate and work with the software and gives you access to everything you need.

In the Lobby you will find the following options and resources:

1. **Lobby Tab**—This button always returns you to the Lobby.
2. **Activity Overview**—Here you can access, organize, and preview content and get started with a project.
 - + Building instructions for the Core Models
 - + Quick Start resources such as a small introduction video and the EV3 User Guide
 - + File management, where you can start a new project or open an existing one
 - + Robot Educator, with forty-eight step-by-step tutorials that explain how to use the EV3 Software and Hardware

3. **View**—This button takes you back to the Activity Overview.
4. **Search**—Find projects with specific content using different filter options
5. **www.LEGOeducation.com/MINDSTORMS**—A link to the official LEGO® MINDSTORMS® Education website.



Lobby overview

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Project Properties and Structure

When you open a new program or experiment, it will automatically create a project folder file. All programs, experiments, images, sounds, videos, instructions, and other assets that are used within a project will automatically be stored in this project folder. This makes it easy to store your project and share it with others.

Each project will be displayed in the form of a tab at the top of the screen. Underneath, you will see tabs for the Programs and Experiments that belong to the selected Project. You can add a new Project, Program, or Experiment by clicking on the + button to the right of the other tabs. Clicking on an X will close the tab.

PROJECT PROPERTIES PAGE

If you click on the tab with the wrench to the far left of the Program and Experiment tabs, you will be taken to the Project Properties page. This page gives you an orderly display for the project that is currently selected, including all programs and experiments, images, sound, and other assets. Here you can describe your project with text, images, and video that will determine how the project shows up in the Lobby. In the Teacher version of the EV3 Software, the Project Properties page also allows you to restrict access to selected programs and other assets in your project.



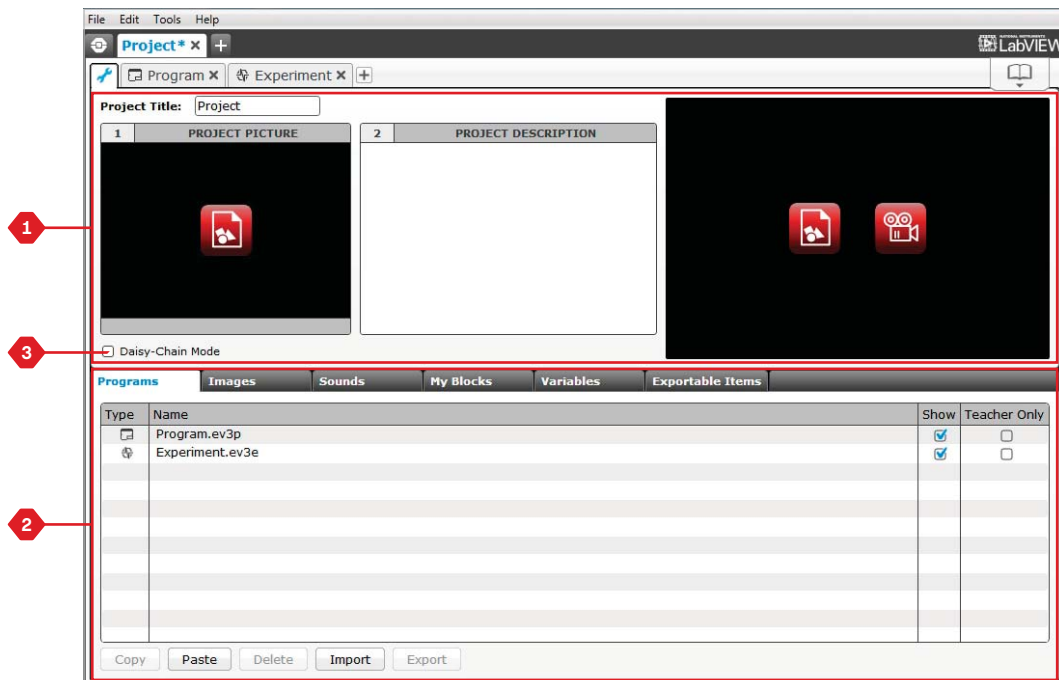
Project, Program and Experiment tabs

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Project Properties and Structure

Project Properties displayed include:

- 1. Project Description**—Give your project a title, describe it, and insert any images and video you would like to appear in the Lobby when the project is previewed.
- 2. Project Content Overview**—Here you will find all assets included in the project: for example, programs, experiments, images, sounds, and My Blocks.
- 3. Daisy Chain Mode**—This check box enables the Daisy Chain Mode, so you can program up to four connected EV3 Bricks.



Project Properties page

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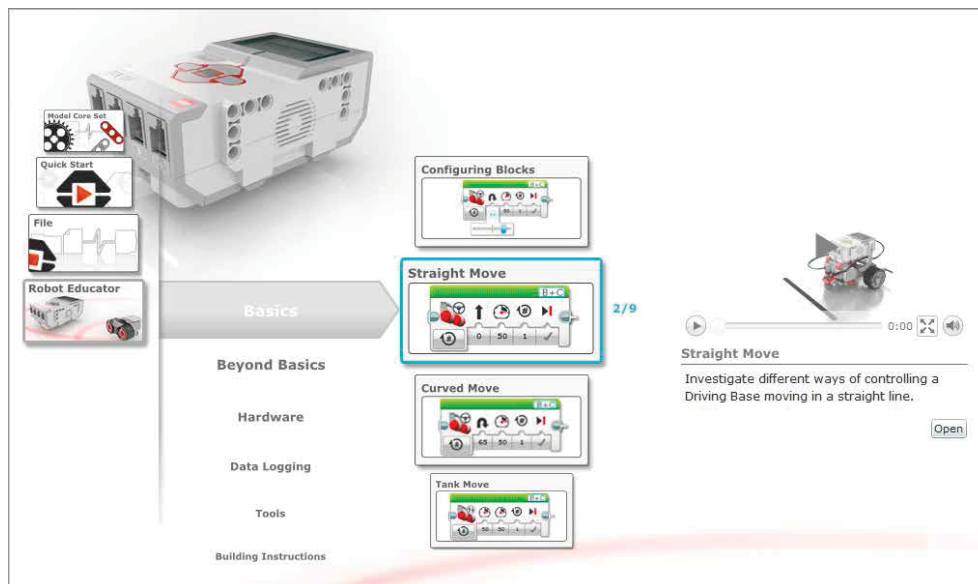
Robot Educator

Robot Educator is the name of both the basic robot and the tutorials you will find in the EV3 Software. The Robot Educator learning tool is designed to take you through the essentials of programming, data logging, and hardware.

Robot Educator consists of forty-eight tutorials divided into the following categories: Basics, Beyond Basics, Hardware, Data Logging, and Tools. Each tutorial is structured in the following way:

- + Understanding the objective
- + Build and program your robot
- + Test it
- + Modify it

In the Robot Educator section in the Lobby, you can also find all related building instructions and a Teacher's Guide (only available in the Teacher version of the EV3 Software).



Robot Educator

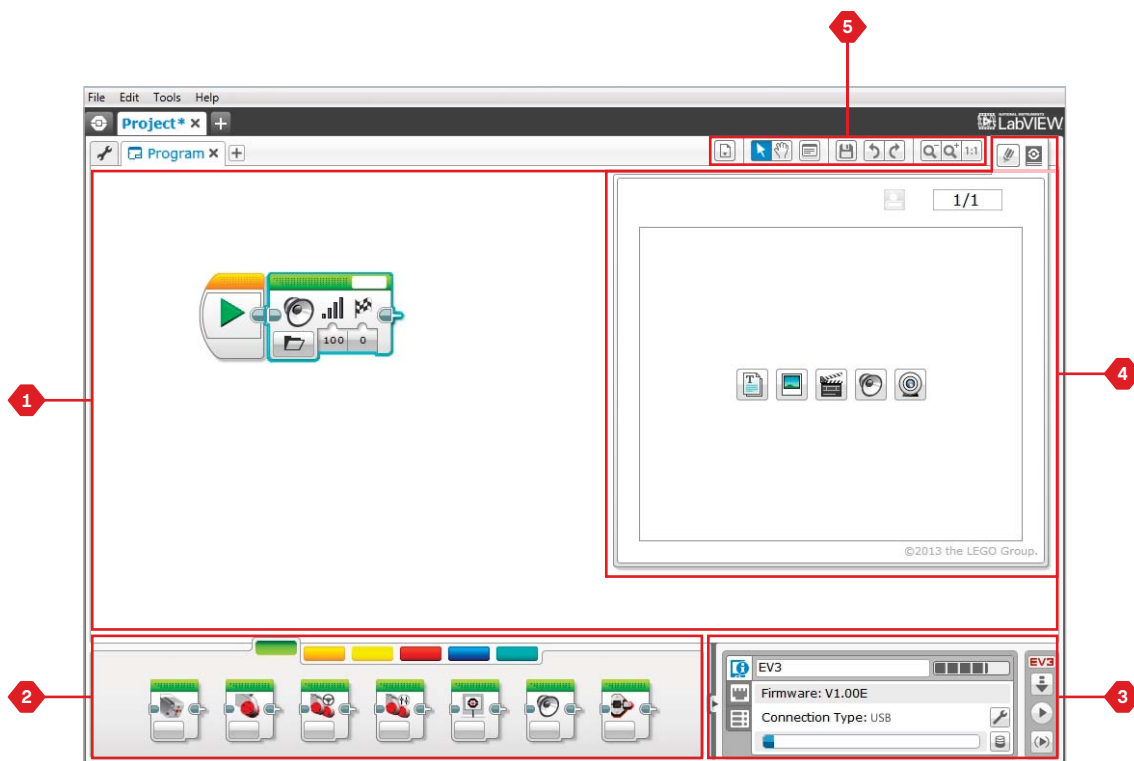
EV3 SOFTWARE

Programming

Without a program, a robot is just a statue. It may be a cool statue, but it's still a statue. When you program a robot you give it abilities—to move, to follow lines, to avoid objects, to make mathematical calculations, and much more. The EV3 Software has an intuitive, graphics-based format that users from 10 to 100 years of age can quickly learn and successfully use.

The EV3 Programming environment consists of the following main areas:

1. **Programming Canvas**—Lay out your program here.
2. **Programming Palettes**—Find the building blocks for your program here.
3. **Hardware Page**—Establish and manage your communication with the EV3 Brick here and see what motors and sensors are connected where. This is also where you download programs to the EV3 Brick.
4. **Content Editor**—A digital workbook integrated into the software. Get instructions or document your project using text, images, and videos.
5. **Programming Toolbar**—Find basic tools for working with your program here. Learn more about these tools in the **EV3 Software Help**.



Programming environment

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Programming Blocks and Palettes

All the programming blocks that are used for controlling your robot are located in Programming Palettes at the bottom of the Programming environment underneath the Programming Canvas. The Programming blocks are divided into categories according to type and nature, making it easy to find the block you need.

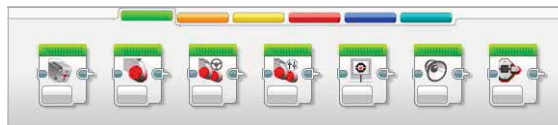
To learn more about the EV3 Programming environment and see how you can get started with your first program, see the **Programming** and **Programming Overview** videos in the Quick Start section of the Lobby.

You can also find more information about how to program in the **EV3 Software Help**.

ACTION BLOCKS

(In order from left to right)

- + Medium Motor
- + Large Motor
- + Move Steering
- + Move Tank
- + Display
- + Sound
- + Brick Status Light



FLOW BLOCKS

(In order from left to right)

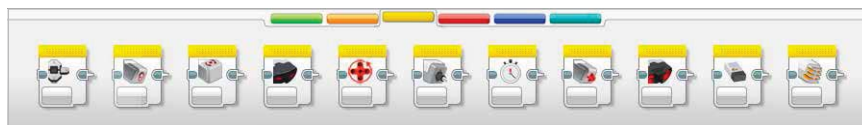
- + Start
- + Wait
- + Loop
- + Switch
- + Loop Interrupt



SENSOR BLOCKS

(In order from left to right)

- + Brick Buttons
- + Color Sensor
- + Gyro Sensor
- + Infrared Sensor
- + Motor Rotation
- + Temperature Sensor
- + Timer
- + Touch Sensor
- + Ultrasonic Sensor
- + Energy Meter
- + NXT Sound Sensor



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Programming Blocks and Palettes

DATA BLOCKS

(In order from left to right)

- + Variable
- + Constant
- + Array Operations
- + Logic Operations
- + Math
- + Round
- + Compare
- + Range
- + Text
- + Random



ADVANCED BLOCKS

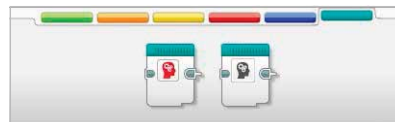
(In order from left to right)

- + File Access
- + Data Logging
- + Messaging
- + Bluetooth Connection
- + Keep Awake
- + Raw Sensor Value
- + Unregulated Motor
- + Invert Motor
- + Stop Program



MY BLOCKS

When you are repeatedly using the same segment of a program in many programs, that is a good time to create a My Block. Once your My Block is created, you can simply insert that single block into future programs within the same project.



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Data Logging

To data log is to collect information for analysis. For example, a weatherperson might collect temperature readings throughout the day, and then analyze it for a report on the evening news. Or a zookeeper might collect data on where visitors are spending their time at the zoo. The EV3 Software cannot only record data, it can help you to organize and analyze it.

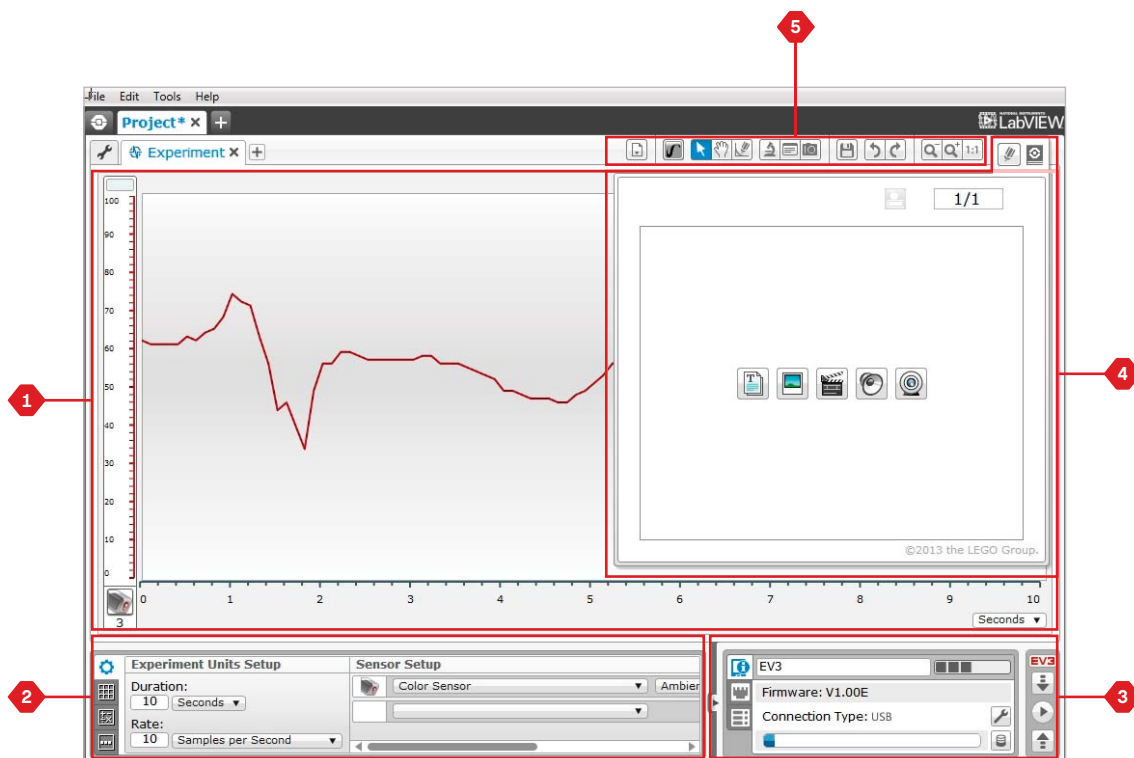
The EV3 Data Logging environment consists of the following main areas:

1. **Graph Area**—This is where you see and analyze your data plots.
2. **Configuration Panel**—Here you set up your experiment, manage your dataset, and get access to Dataset Calculation and Graph Programming, special data logging functionalities.

3. **Hardware Page**—Establish and manage your communication with the EV3 Brick here and see what sensors are connected where. This is also where you download experiments to the EV3 Brick and upload data to the software.

4. **Content Editor**—A digital workbook integrated into the software. Get instructions or document your project using text, images, and videos.

5. **Data Logging Toolbar**—Find basic tools for working with your graph and experiment here. Learn more about these tools in the **EV3 Software Help**.



Data Logging environment

EV3 SOFTWARE

Data Logging

Configuration Panel

In the Configuration Panel, you will find four different tabs that will help you prepare, manage, and analyze your experiments. Some of the tabs are dynamic: they will automatically be shown when relevant. You will always be able to switch between tabs manually.

EXPERIMENT CONFIGURATION

Here you set up your experiment by selecting the sample duration and rate and choosing what sensors to collect data from. For each sensor, you also have to select sensor mode, since most sensors can provide different types of data.

DATASET TABLE

In addition to displaying the collected data in the graph area, a dataset will be shown in the Dataset Table. Here you can also rename the dataset, delete or hide it, and change plot style and color of the graphs.

DATASET CALCULATION

Here you can manipulate datasets and graphs by doing various calculations using numbers, functions, and other datasets. The output result will be displayed as both graph and dataset values.

GRAPH PROGRAMMING

By dividing your graph area in different zones, you can enable your sensor input to trigger or activate an output: for example, a motor or a sound from the EV3 Brick when the sensor values reach a certain level or threshold.

To learn more about the EV3 data logging environment and see how you can get started with your first experiment, see the **Data Logging** and **Data Logging Overview** videos in the Quick Start section of the Lobby.

You can also find more information about how to data log in the **EV3 Software Help**.



Experiment Configuration panel



Dataset Table panel



Dataset Calculation panel



Graph Programming panel

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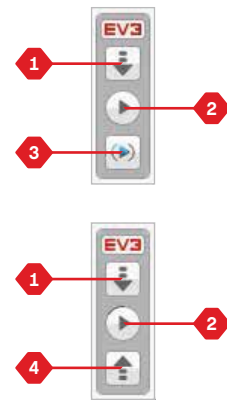
Hardware Page

The Hardware Page provides a range of information about your EV3 Brick. It is always located in the lower right-hand corner when working with both Programs and Experiments and can be collapsed when needed using the Expand/Collapse tab. Even when collapsed, the Hardware Page Controller will be visible, allowing you to download your program or experiment.

The different Hardware Page Controller buttons have the following functionality:

1. **Download**—Downloads the Program or Experiment to the EV3 Brick
2. **Download and Run**—Downloads the Program or Experiment to the EV3 Brick and runs it immediately
3. **Download and Run Selected**—Downloads only the highlighted blocks to the EV3 Brick and runs them immediately
4. **Upload**—Uploads your collected datasets from the EV3 Brick to your Experiment

The EV3 text in the small window at the top will turn red when an EV3 Brick is connected to your computer.



Hardware Page Controllers

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Hardware Page

BRICK INFORMATION

The Brick Information tab displays important information about the EV3 Brick that is currently connected, such as EV3 Brick name, battery level, firmware version, connection type, and memory bar. It also gives you access to the Memory Browser and Wireless Setup tools.

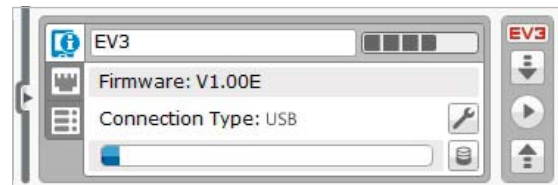
PORT VIEW

The Port View tab displays information about the sensors and motors connected to the EV3 Brick. When your EV3 Brick is connected to the computer, this information is automatically identified and you will be able to see the live values. If your EV3 Brick is not connected, you can still set up the Port View tab manually. Select a port, then select the appropriate sensor or motor from the list.

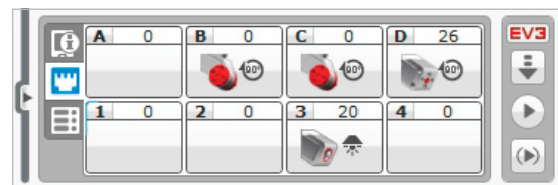
AVAILABLE BRICKS

The Available Bricks tab shows the EV3 Bricks that are currently available for connection. You are able to choose which EV3 Brick you want to connect to and the type of communication. Also, you can disconnect an existing EV3 Brick connection.

You can find more information about how to use the Hardware Page in the **EV3 Software Help**.



Brick Information tab



Port View tab



Available Bricks tab

EV3 SOFTWARE

Content Editor

The Content Editor offers a convenient way for users to document the purpose, process, and analysis of their projects. You can include text, images, videos, sound effects, and even building instructions. It is also a convenient, paperless way for educators to monitor and evaluate student projects. Content Editor is also the place where already-made content—for example, Robot Educator tutorials and purchased LEGO® Education activity packs—is displayed and used.

Each page can be customized with different layouts and can automatically perform a range of actions, such as opening specific programs or highlighting a particular programming block.

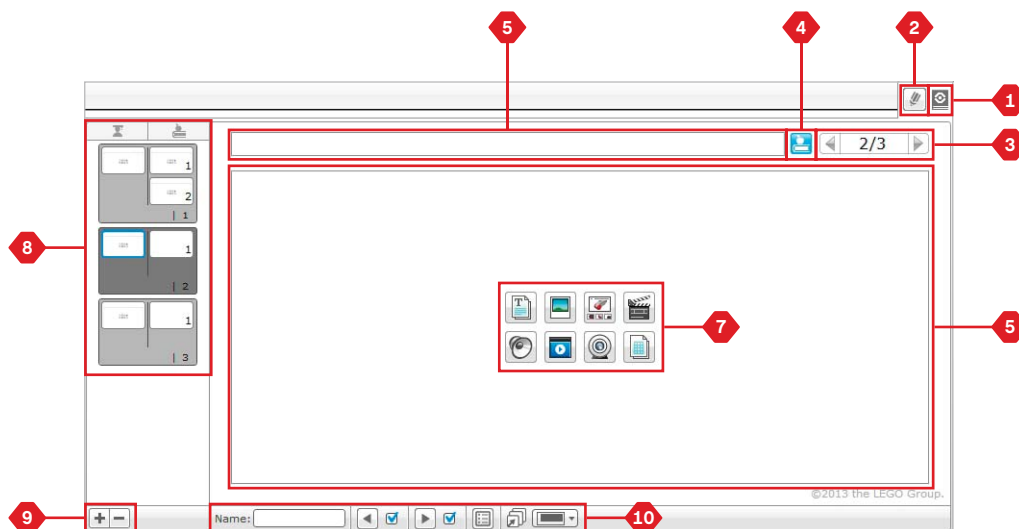
The Content Editor is located in the top right corner of the EV3 Software and is available whether you are working with a Program or an Experiment. You open the Content Editor using the large button with the book icon. Once open, you will be able to see whatever content has been made for the project: for example, a Robot Educator tutorial.

The Content Editor consists of the following main areas and features:

1. **Open/Close Content Editor**—Here you open and close the Content Editor.

2. **Edit/View Mode**—Allows you to view or edit your pages.
3. **Page Navigation**—Go to the next or previous page.
4. **Teacher/Student Toggle**—Switch between the Student Page and Teacher Notes while viewing the content. This functionality is only available in the Teacher version of the EV3 Software.
5. **Page Title**—Add a title to your page.
6. **Page Area**—This is where the main content is shown and edited.
7. **Media Icons**—Select what content type you wish to add to the page area.
8. **Page Thumbnails**—Go to a specific page using the thumbnail images. In the Teacher version of the EV3 Software, Teacher Notes will also be available.
9. **Add/Delete Page**—When adding a page, you get to choose from fourteen different templates.
10. **Page Setup**—Make special settings for each page, such as format, page action, and navigation to the next page.

You can find more information about how to use the Content Editor in the **EV3 Software Help**.



Content Editor



EV3 SOFTWARE

Tools

In the top menu bar of the EV3 Software you will find a number of small Tools that can add extra functionality and support to your EV3 Software experience.

You can learn more about most of the Tools in the [EV3 Software Help](#).

SOUND EDITOR

Create your own sound effects or customize one from our selection of official EV3 Sound files. The sounds can then be used for programming your robot by use of the Sound Programming Block.

IMAGE EDITOR

Make creative use of the EV3 Brick Display by designing original images or customizing existing images. The images can then be used for programming your robot by the use of the Display Programming Block.

MY BLOCK BUILDER

Sometimes you make a great miniprogram that you want to use again in another project or program. My Block Builder helps you take this miniprogram and create a unique My Block where you define the name, icon, and parameters that are relevant for you. My Blocks will automatically be archived in the My Block Programming Palette.

FIRMWARE UPDATE

Periodically, updated firmware will become available for your EV3 Brick. We recommend that you install new versions as they become available. This tool will tell you if there is a new firmware version available and help you update it on your EV3 Brick.

WIRELESS SETUP

In case you wish your EV3 Software to communicate with your EV3 Brick using Wi-Fi, this tool will help set up the wireless connection. To do so, you will need to acquire a Wi-Fi USB dongle for the EV3 Brick and enable Wi-Fi communication on the EV3 Brick.

BLOCK IMPORT

Add new blocks to your Programming Palettes. This can be new LEGO® Programming Blocks or blocks developed by other manufacturers: for example, in relation to a third-party sensor. These Blocks first need to be downloaded to your computer—then you can import them into your EV3 Software using this tool.

MEMORY BROWSER

It is easy to lose track of what you have stored on your EV3 Brick. The Memory Browser provides an overview of memory use on your EV3 Brick (including an SD card if you have it inserted). You can use the Memory Browser to transfer programs, sounds, graphics, and other files between your EV3 Brick and a computer, and copy and delete files that are already on your EV3 Brick.



EV3 SOFTWARE

Tools

DOWNLOAD AS APP

Advanced users may enjoy the challenge of creating applications for generic tasks on the EV3 Brick. An EV3 Brick app is made as a normal EV3 program, but when downloaded to the EV3 Brick using this tool, it will show up as a new app in the Brick Apps screen, together with the default apps such as Brick Programming and Port View.

IMPORT BRICK PROGRAM

This tool will enable you to import a program made in the Brick Program App on the EV3 Brick to the EV3 Software programming environment. Your program can then be further refined using the full functionality of the EV3 Software.

DATA LOG FILE MANAGER

Use this tool to view, manage, and import datasets created by an experiment into your EV3 Software. This is used when collecting data remotely on the EV3 Brick. The Data Log File Manager can import datasets from the EV3 Brick, an SD card, or your computer.

REMOVE VALUES FROM DATASET

When collecting data from your sensors, you may later wish to remove certain values from a dataset. This might be done to narrow the range of sensor values you wish to further analyze or because your dataset contains sporadically invalid values generated by a sensor returning a default value when a real value cannot be measured.

CREATE DATA LOGGING PROGRAM

If you have an experiment that you would like to integrate into a program, this tool will help you. Rather than collecting data at the same place all the time, you may wish to program a robot to collect data from different areas in a room. This tool will transform your experiment into a Data Logging Programming Block on the Programming Canvas. You can now build your program.

EXPORT DATASETS

If you wish to work further with your dataset in another software tool (for example, Microsoft Excel), you can export any EV3 dataset to a comma-separated value (CSV) file format and save it on your computer. The CSV file can then be opened from within the chosen software. Make sure the software supports the CSV file format.

TROUBLESHOOTING



EV3 Software Help

Under Help at the top menu bar of the EV3 Software, you will find access to the EV3 Help section. The help section is a comprehensive and structured resource that provides helpful information about and guidance with all of the EV3 Software, including how to best use and program with sensors and motors. This is the first place to look if you need help or more information on how to use the EV3 Software.

Software Updates

Under Help at the top menu bar of the EV3 Software, you can enable the EV3 Software to automatically check for software updates. By clicking **Check for Software Updates**, a check mark will appear and the software will regularly check for software updates (this requires an Internet connection). If a relevant update is available, you will be notified by the software. If you wish to install this software update, you will be taken to a website where you can download the update file. Once downloaded, you can install the update. Make sure you have closed down your EV3 Software during installation.

TROUBLESHOOTING

Firmware Update

Firmware is the software that is inside the EV3 Brick. Without its firmware, the EV3 Brick will not work. Occasionally, the LEGO Group may release new versions of the firmware that add enhanced functions or fix software bugs.

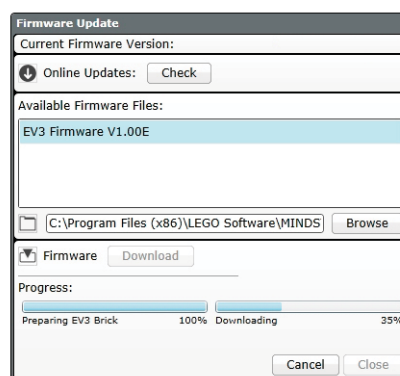
To update the firmware, you need a USB connection from your computer to your EV3 Brick. Your computer must also be connected to the Internet.

1. Turn your EV3 Brick on and connect it to your computer.
2. Select Firmware Update in the Tools menu.
3. Click the Check button to see if new firmware updates are available.
4. Select the most recent firmware version from the Available firmware files.
5. If you want to use a firmware version located on your computer instead, use the Browse button to find and select the correct firmware file.
6. Click the Download button to download the new firmware to your EV3 Brick. The progress bars at the bottom of the Firmware Update dialog box will show you how the firmware update is proceeding. Once complete, your EV3 Brick will restart itself.

If for some reason your EV3 Brick stops working during the firmware update process, you will need to manually update the firmware by doing the following (the EV3 Brick still needs a USB connection to your computer):

1. Hold down the **Back**, **Center**, and **Right** buttons on the EV3 Brick.
2. When the EV3 Brick restarts, release the **Back** button.
3. When the screen says "Updating," release the **Center** and **Right** buttons and click the Download button in the Firmware Update tool. The firmware will be downloaded to your EV3 Brick, which will restart itself.

If the manual firmware update does not make your EV3 Brick work the first time, repeat the manual update process.



Firmware Update tool

NOTE:

Updating firmware will delete all existing files and projects in the EV3 Brick memory!

NOTE:

Check your EV3 Brick batteries before repeating manual firmware updates. The problem may simply be due to worn-down batteries!

TROUBLESHOOTING

Resetting the EV3 Brick

If your EV3 Brick suddenly stops working and cannot be shut down through the normal process, you will need to reset your EV3 Brick. Resetting the EV3 Brick does not delete existing files and projects from previous sessions in the EV3 Brick memory. Files and projects from the existing session will be lost.

1. Make sure that the EV3 Brick is turned on.
2. Hold down the **Back**, **Center**, and **Left** buttons on the EV3 Brick.
3. When the screen goes blank, release the **Back** button.
4. When the screen says "Starting," release the **Center** and **Left** buttons.

NOTE:

Check your EV3 Brick batteries before reinstalling firmware. Problems may simply be due to worn-down batteries!

USEFUL INFORMATION

Sound File List

ANIMALS



Cat purr



Dog whine



Snake hiss



Dog bark 1



Elephant call



Snake rattle



Dog bark 2



Insect buzz 1



T-rex roar



Dog growl



Insect buzz 2



Dog sniff



Insect chirp

COLORS



Black



White



Blue



Yellow



Brown



Green



Red

USEFUL INFORMATION

Sound File List

COMMUNICATION



Bravo



Goodbye



Okay



EV3



Hello



Okey-dokey



Fantastic



Hi



Sorry



Game over



LEGO



Thank you



Go



MINDSTORMS



Yes



Good job



Morning



Good



No

EXPRESSIONS



Boing



Kung fu



Smack



Boo



Laughing 1



Sneezing



Cheering



Laughing 2



Snoring



Crunching



Magic wand



Uh-oh



Crying



Ouch



Fanfare



Shouting

USEFUL INFORMATION

Sound File List

INFORMATION



Activate



Error



Start



Analyze



Flashing



Stop



Backwards



Forward



Touch



Color



Left



Turn



Detected



Object



Up



Down



Right



Error alarm



Searching

MECHANICAL



Air release



Blip 4



Motor stop



Airbrake



Horn 1



Ratchet



Backing alert



Horn 2



Sonar



Blip 1



Laser



Tick tack



Blip 2



Motor idle



Walk



Blip 3



Motor start

USEFUL INFORMATION

Sound File List

MOVEMENTS



Arm 1



Servo 1



Speed down



Arm 2



Servo 2



Speed idle



Arm 3



Servo 3



Speed up



Arm 4



Servo 4



Speeding



Drop load



Slide load



Lift load



Snap

NUMBERS



Eight



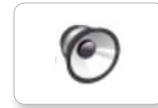
One



Three



Five



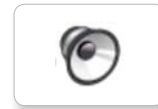
Seven



Two



Four



Six



Zero



Nine



Ten

USEFUL INFORMATION

Sound File List

SYSTEM



Click



Overpower



Confirm



Power down



Connect



Ready



Download



Start up



General alert

USEFUL INFORMATION

Image File List

EXPRESSIONS



Big smile



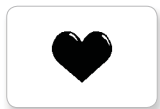
Sad



Heart large



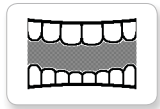
Sick



Heart small



Smile



Mouth 1 open



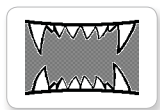
Swearing



Mouth 1 shut



Talking



Mouth 2 open



Wink



Mouth 2 shut



ZZZ

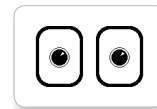
EYES



Angry



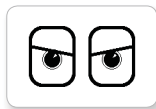
Dizzy



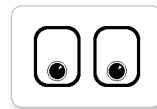
Neutral



Tired left



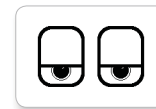
Awake



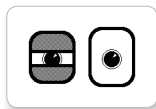
Down



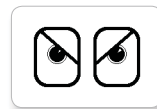
Nuclear



Tired middle



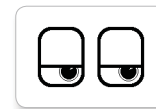
Black eye



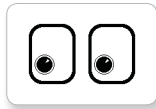
Evil



Pinch left



Tired right



Bottom left



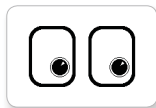
Hurt



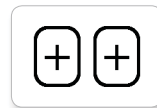
Pinch middle



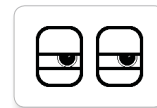
Toxic



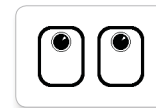
Bottom right



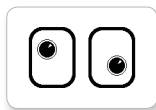
Knocked out



Pinch right



Up



Crazy 1



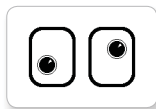
Love



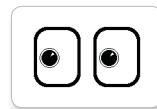
Sleeping



Winking



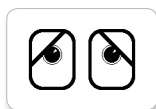
Crazy 2



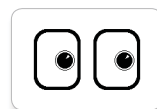
Middle left



Tear



Disappointed



Middle right

USEFUL INFORMATION

Image File List

INFORMATION



Accept



No go



Thumbs down



Backward



Question mark



Thumbs up



Decline



Right



Warning



Forward



Stop 1



Left



Stop 2

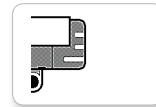
LEGO



Color sensor



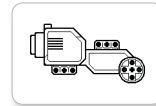
IR sensor



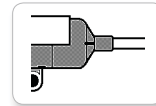
Sound sensor



EV3 icon



Large motor



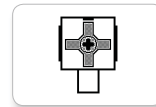
Temp. sensor



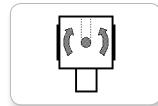
EV3



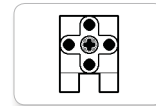
LEGO



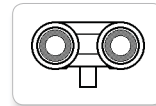
Touch sensor



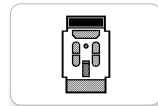
Gyro sensor



Medium motor



US sensor



IR beacon



MINDSTORMS

USEFUL INFORMATION

Image File List

OBJECTS



Bomb



Lightning



Boom



Night



Fire



Pirate



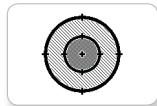
Flowers



Snow



Forest



Target

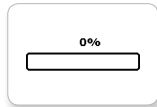


Light off

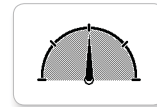


Light on

PROGRESS



Bar 0



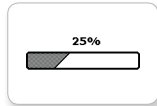
Dial 2



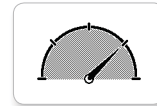
Hourglass 0



Timer 4



Bar 1



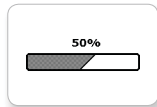
Dial 3



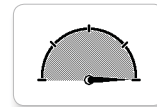
Hourglass 1



Water level 0



Bar 2



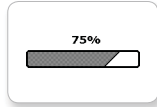
Dial 4



Hourglass 2



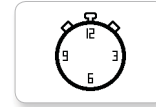
Water level 1



Bar 3



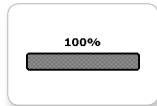
Dots 0



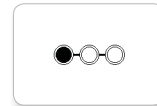
Timer 0



Water level 2



Bar 4



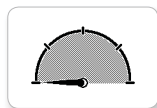
Dots 1



Timer 1



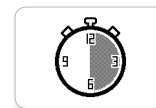
Water level 3



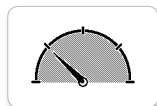
Dial 0



Dots 2



Timer 2



Dial 1



Dots 3



Timer 3

USEFUL INFORMATION

Image File List

SYSTEM



!Accept 1



!Dot empty



!Slider 0



!Slider 6



!Accept 2



!Dot full



!Slider 1



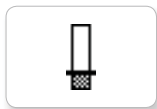
!Slider 7



!Alert



!EV3



!Slider 2



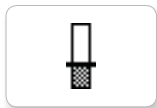
!Slider 8



!Box



!Hourglass 0



!Slider 3



!Decline 1



!Hourglass 1



!Slider 4



!Decline 2



!Play



!Slider 5

USEFUL INFORMATION

Brick Program App—Assets List

SOUNDS



1. Hello



7. Object



2. Goodbye



8. Ouch



3. Fanfare



9. Blip 3



4. Error alarm



10. Arm 1



5. Start



11. Snap

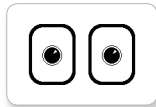


6. Stop



12. Laser

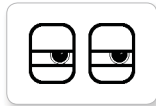
IMAGES



1. Neutral



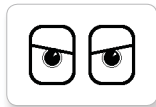
7. Question mark



2. Pinch right



8. Warning



3. Awake



9. Stop 1



4. Hurt



10. Pirate



5. Accept



11. Boom



6. Decline



12. EV3 icon

USEFUL INFORMATION

Element List



10x
Bushing, ½-module, yellow
4239601



10x
Bushing, 1-module, gray
4211622



60x
Connector peg with friction,
2-module, black
4121715



10x
Connector peg,
2-module, gray
4211807



8x
Connector peg with axle,
2-module, beige
4666579



6x
Connector peg,
3-module, beige
4514554



20x
Connector peg with friction/axle,
2-module, blue
4206482



30x
Connector peg with friction,
3-module, blue
4514553



22x
Connector peg with bushing,
3-module, red
4140806



2x
Axle with stud,
3-module, dark beige
6031821



4
2x
Axle with stop,
4-module, dark gray
4560177



8
2x
Axle with stop,
8-module, dark gray
4499858



10x
Axle, 2-module, red
4142865



3
14x
Axle, 3-module, gray
4211815



4
4x
Axle, 4-module, black
370526



5
6x
Axle, 5-module, gray
4211639



6
4x
Axle, 6-module, black
370626



7
5x
Axle, 7-module, gray
4211805



8
2x
Axle, 8-module, black
370726



9
2x
Axle, 9-module, gray
4535768



10
2x
Axle, 10-module, black
373726



12
2x
Axle, 12-module, black
370826



4x
Pointer, 3-module, white
4173941



4x
T-Beam, 3x3-module, black
4552347



4x
Beam with crosshole,
2-module, black
6006140



2x
Beam, 3-module, black
4142822

USEFUL INFORMATION



4x
Beam, 3-module, green
6007973



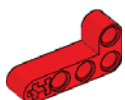
4x
Beam, 3-module, red
4153718



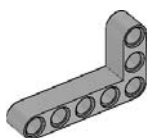
4x
Beam, 3-module, blue
4509376



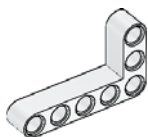
4x
Beam, 3-module, yellow
4153707



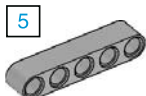
6x
Angular beam,
2x4-module, red
4141270



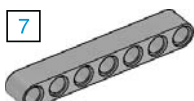
2x
Angular beam,
3x5-module, gray
4211713



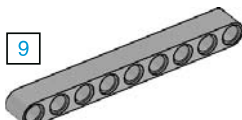
4x
Angular beam,
3x5-module, white
4585040



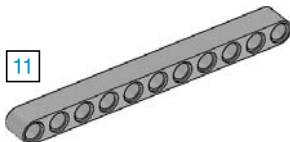
5
4x
Beam, 5-module, gray
4211651



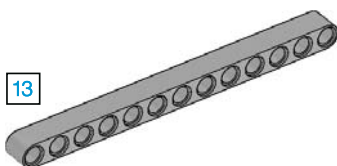
7
4x
Beam, 7-module, gray
4495930



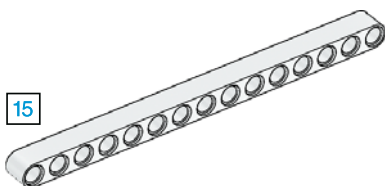
9
6x
Beam, 9-module, gray
4211866



11
4x
Beam, 11-module, gray
4611705



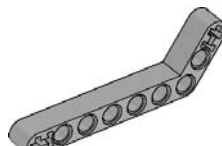
13
6x
Beam, 13-module, gray
4522934



15
6x
Beam, 15-module, white
4542578



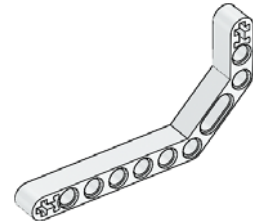
6x
Angular beam,
4x4-module, white
4509912



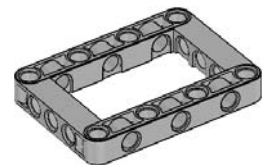
4x
Angular beam,
3x7-module, gray
4211624



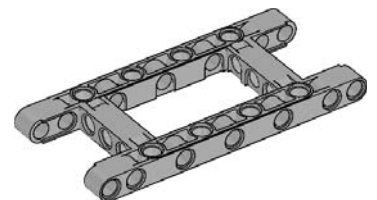
4x
Angular beam,
4x6-module, black
4112282



4x
Double angular beam,
3x7-module, white
4495412



3x
Frame,
5x7-module, gray
4539880



1x
Frame,
5x11-module, gray
4540797

USEFUL INFORMATION



4x
Double connector peg,
3-module, gray
4560175



8x
Double cross block,
3-module, black
4121667



4x
1/2 triangle beam,
5x3-module, gray
6009019



2x
Angular block, 6 (90°), black
4107767



6x
Double connector peg,
3x3-module, gray
4225033



4x
Cross block fork,
2x2-module, black
4162857



2x
3-spoke angular block,
3x120°, gray
4502595



4x
Rubber beam with crossholes,
2-module, black
4198367



4x
Angular connector peg,
3x3-module, gray
4296059



4x
Cross block,
2x2-module, black
4140430



4x
Tube, 2-module, gray
4526985



4x
Gear, 8-tooth, dark gray
4514559



8x
Cross block,
2-module, gray
4211775



2x
Cross beam,
2x1-module, red
6008527



6x
Bushing/axle extender,
2-module, red
4513174



2x
Bevel gear, 12-tooth, beige
4565452



8x
Cross block,
3-module, dark gray
4210857



2x
Connector peg with handle,
3-module, black
4563044



4x
Angular block 1, 0°,
black
4107085



4x
Gear, 16-tooth, gray
4640536



6x
Cross block,
3x2-module, gray
4538007



2x
1/2 beam,
4-module, black
4142236



4x
Angular block 2, 180°,
black
4107783



4x
Gear, 24-tooth, dark gray
4514558

USEFUL INFORMATION



2x
Gear, 40-tooth, gray
4285634



2x
Turntable bottom,
28-tooth, gray
4652235



4x
Tire, 30.4x4 mm, black
6028041



1x
Right curved panel,
3x5-module, black
4566249



2x
Double bevel gear,
12-tooth, black
4177431



2x
Turntable top,
28-tooth, black
4652236



4x
Hub, 24x4 mm, dark gray
4587275



1x
Right curved panel,
5x11-module, black
4543490



2x
Double bevel gear,
20-tooth, black
4177430



4x
Sprocket,
40.7x15 mm, black
4582792



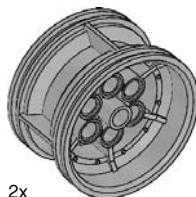
1x
Steel Ball, silver metallic
6023956



1x
Left curved panel,
5x11-module, black
4541326



2x
Double bevel gear,
36-tooth, black
4255563



2x
Hub,
43.2x26 mm, gray
4634091



1x
Ball bearing, dark gray
4610380



2x
Worm gear, gray
4211510



54x
Track, 5x1.5-module, black
6014648



4x
Gear, 4-tooth, black
4248204

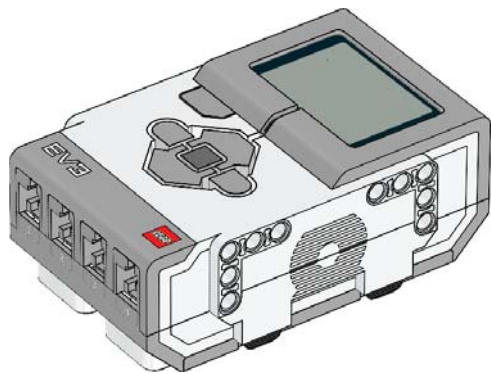


2x
Low profile tire,
56x28 mm, black
6035364

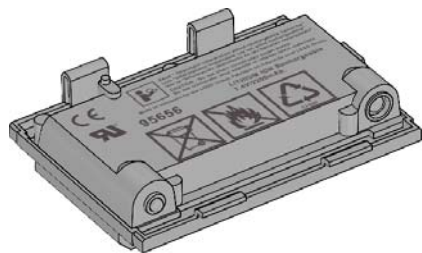


1x
Left curved panel,
3x5-module, black
4566251

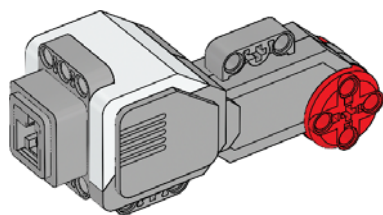
USEFUL INFORMATION



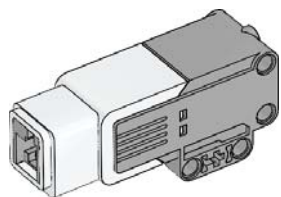
1x
EV3 Brick
6009996



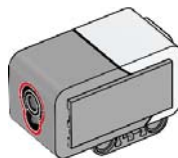
1x
Rechargeable Battery
6012820



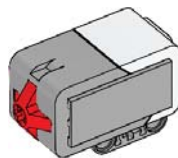
2x
Large Motor
6009430



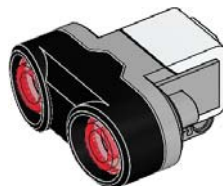
1x
Medium Motor
6008577



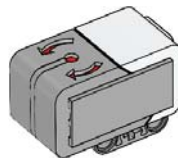
1x
Color Sensor
6008919



2x
Touch Sensor
6008472



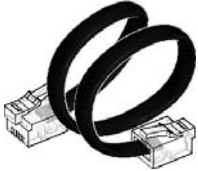
1x
Ultrasonic Sensor
6008924



1x
Gyro Sensor
6008916

USEFUL INFORMATION

25 cm / 10 in.



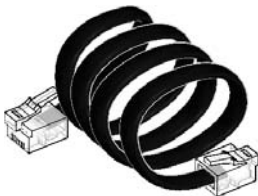
4x
Cable, 25 cm / 10 in.
6024581

35 cm / 14 in.

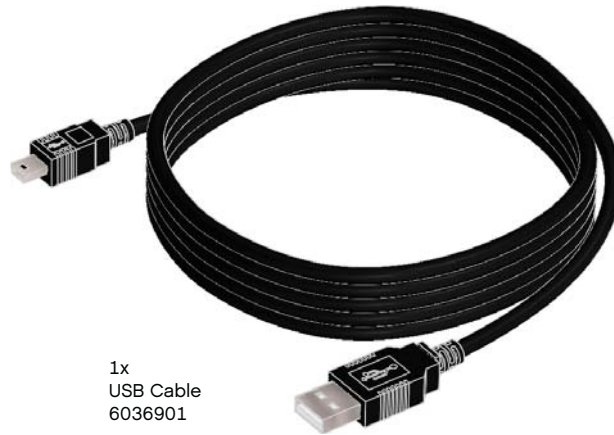


2x
Cable, 35 cm / 14 in.
6024583

50 cm / 20 in.



1x
Cable, 50 cm / 20 in.
6024585



1x
USB Cable
6036901

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iPod iPhone iPad

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iPod Touch (4th gen.) iPad 1
iPhone 4 iPad 2
iPhone 4S iPad 3 (3rd gen.)