



# FAQ

**Q: What does EV3 stand for?**

**A:** This is the third generation of LEGO Education MINDSTORMS platform and the “EV” stands for evolution.

**Q: What comes in the core set?**

Sturdy storage box and sorting tray for easy classroom management	Connector Cables	1 Medium Motor
Building instructions	USB Cable	2 touch sensor
Rechargeable battery	LEGO Technic Elements – piece count 541 pcs.	1 Color Sensor
Ball Wheel	Three motors and five sensors	1 Ultrasonic Sensor
	1 P-brick	1 Gyro Sensor
	2 large motors	

**Q: What is Robot Educator?**

**A:** Robot Educator is the name of both the basic robot and the tutorials found in the software. The Robot Educator is a very simple, quick-to-build robot that students will have in their hands ready to learn the basics of robotics. It is the robot that introduces the student to the world of robotics. The Robot Educator learning tool is designed to take you and your student’s through the essentials of programming, data logging, and hardware. It does so in a structured and engaging way, ensuring that everyone is constructing, programming, and experimenting within a minimum of time.

**Q: What is the Content Editor in the software? How does it help educators?**

**A:** The Content Editor enables educators to edit, adapt, and customize activities - or create their own from scratch. Teachers can use the Content Editor to customize lessons directly for their student’s needs or customize to the different grade levels. The Content Editor provides a digital workbook for students where they can capture their work by inserting text, images, videos and sound creating their own digital workbook. The workbook can easily be used for sharing and communication of end-results, among other things making assessment easier.

**Q: How is the LEGO MINDSTORMS Education EV3 P-brick different from the NXT?**

**A:** The LEGO MINDSTORMS Education EV3 P-brick is a completely new P-brick and the most powerful P-brick ever created by LEGO Education. The LEGO MINDSTORMS Education EV3 P-brick is built up around a faster and stronger processor, which not only increases performance on all parameters compared to the NXT but also introduces new possibilities not available with NXT. For detailed information on the LEGO MINDSTORMS Education EV3 P-brick see Product Sheet.

**Q: Can you use NXT parts with the LEGO MINDSTORMS Education EV3?**

**A:** LEGO MINDSTORMS® Education EV3 uses the same LEGO® Technic elements and RJ12 connector cables as the LEGO MINDSTORMS® Education NXT, so all your existing sensors, motors and building elements will work with the new platform. Please notice that the NXT rechargeable battery cannot be used together with LEGO MINDSTORMS Education EV3 P-brick.

**Q: Can I connect my NXT P-brick to the LEGO MINDSTORMS Education EV3 P-brick?**

**A:** No. It is not possible to daisy chain with the NXT brick.

**Q: Can I program the NXT P-brick using LEGO MINDSTORMS Education EV3 Software?**

**A:** You can program your NXT P-brick using the new LEGO MINDSTORMS Education EV3 software. However, not all of the software features are supported by the NXT P-brick.

**Q: Is LEGO MINDSTORMS Education EV3 backwards compatible to NXT hardware?**

**A:** Yes. You can program your NXT brick using the new LEGO MINDSTORMS Education EV3 software. However, not all software features are supported by the NXT P-brick.

**Q: Is there on-brick programming?**

**A:** Yes. We have continued and improved the on-brick programming with the LEGO MINDSTORMS Education EV3 brick. Students can easily program basic tasks on the brick and also conduct basic data logging. All of the on-brick programs can be uploaded into the LEGO MINDSTORMS Education EV3 software for continued and advanced work.

**Q: Can you use EV3 Software on both Mac and PC?**

**A:** The EV3 software can be used on both Mac and PC platforms to program LEGO® MINDSTORMS® Education EV3 P-bricks.

**Q: What programming platforms can you use with LEGO MINDSTORMS Education EV3?**

**A:** Besides the EV3 software, you can also use LabVIEW and RobotC. EV3 is an open-source platform and, therefore, we anticipate the MINDSTORMS community to develop additional languages such as JAVA.

**Q: What new software-updates have been made?**

There are many new features and improvements from NXT to EV3. Some of the more noticeable are:

**Lobby:**

- New full screen lobby to navigate through the content provided by LEGO Education, third parties and user generated; making sure the teaching objective is in focus.

**Content Editor:**

- Content is editable directly inside the environment, enabling customization of existing projects or creation of new ones from scratch.
- The Content Editor provides a digital workbook for students where they can capture their work by inserting text, images, videos and sound creating their own digital workbook.

**Tighter integration between the P-brick and the programming environment:**

- The hardware page enables monitoring the status and values measured by all the hardware elements.
- Hardware elements are automatically recognized thanks to auto-id.
- Bluetooth configuration is facilitated by the USB to Bluetooth features.

**Debugging features now part of the programming environment:**

- Execution highlight.
- Programming blocks will display a warning symbol if expected hardware by the programming block is different from the detected hardware by auto-id.
- Probes enable seeing the values going through the data wires.

**New programming blocks possibilities:**

- Simple strip programming by snapping blocks together (no need to use the beam anymore).
- Block parameters configured directly on block.
- Read program sequence directly on blocks.
- Improved sequence wires that facilitate showing the structure of the program and creating parallel execution.
- Wait for change added to easily create robots that behave according to change in the environment, as opposed to wait for threshold that only works by comparing measured values.
- Data wires improved and data casting added to simplify data type conversion.
- Arrays integrated in the standard blocks.
- Loop interruption now possible, enabling creating advance state control mechanisms.

**Data logging:**

- Oscilloscope mode enables live monitoring of the sensors to prepare experiments and validate setup.
- Dataset calculation integrated, enabling analysis of the data coming from the sensors.
- Graph programming added; this feature enables users to create zones on the graph that will make the robot react in the physical world based on the data on the graph.

**Q: In what languages is the LEGO MINDSTORMS Education EV3 software available?**

US English	French	Japanese
British English	Spanish	Chinese
Danish	Italian	Russian
Norwegian	Portuguese	Arabic
Swedish	Dutch	
German	Korean	

**Q: Will the LEGO MINDSTORMS Education EV3 software work on my tablet/phone?**

**A:** No. At release time, the software works on PC and Mac laptop and desktop systems. Simple control apps are under development and are expected in second half 2013.