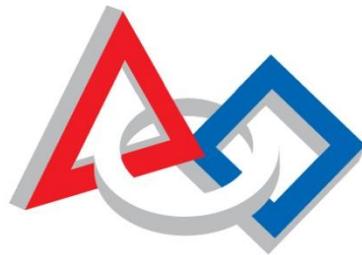




**MINDSTORMS**<sup>®</sup>  
education

**EV3**

## Q & A



**FLL**<sup>®</sup>

*FIRST<sup>®</sup> LEGO<sup>®</sup> League*

# Questions and answers

## What does EV3 stand for?

- This is the third generation of the LEGO® MINDSTORMS® platform and the “EV” stands for evolution.

## What comes in the LEGO MINDSTORMS Education EV3 Core Set (45544)?

- Sturdy storage box and sorting tray for easy classroom management
- Building instructions
- Rechargeable battery
- Ball Wheel
- Connector Cables
- USB Cable
- LEGO Technic Elements – piece count 541 pcs.
- 1 programmable brick (known as P-brick)
- Three motors and five sensors: 2 large motors, 1 medium motor, 2 touch sensors, 1 color sensor, 1 ultrasonic sensor, 1 gyro sensor.

## In what languages will the LEGO MINDSTORMS Education EV3 software be available?

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

## Can you use EV3 Software on both Mac and PC?

- EV3 software can be used on both Mac and PC to program EV3 P-bricks.

## When will the new product be available for FIRST® LEGO League teams?

- LEGO MINDSTORMS Education EV3 will be available in the fall term of 2013. A shipping date will be revealed in March 2013.

## How much will the new set cost?

- Prices will differ from country to country due to differences in duties and taxes. US/CAN partners/teams should visit the *FIRST* registration system for information on prices. Those who reside outside North America should check the website of the local LEGO Education dealer. You may find a list of local dealers and their website addresses on [www.legoeducation.com](http://www.legoeducation.com) – “Find local distributor”.

## Do FLL® teams have to purchase the new set this up-coming season?

- Teams may choose either the EV3 or former versions of LEGO MINDSTORMS robot sets. All platforms will be allowed in FLL.
- New teams, who do not have any existing robot sets available, are advised to buy into EV3 as EV3 has a lower entry barrier (both hardware and software) than NXT.
- Veteran teams may stay on any former LEGO MINDSTORMS platform or choose to move on to EV3.

### **Can FLL teams pre-order EV3 sets already now?**

- USA/CAN teams may place pre-orders when team registration opens in May 2013.
- Teams outside North America should check with their local dealers whether they will take pre-orders. You may find a list of local dealers and their website addresses on [www.legoeducation.com](http://www.legoeducation.com) – “Find local distributor”.

### **Is EV3 backwards compatible to NXT?**

- LEGO MINDSTORMS Education EV3 is backwards compatible with the LEGO MINDSTORMS Education NXT platform. This enables the NXT programmable brick, sensors, and motors to be used with the EV3 software, though not all new EV3 features are available. The EV3 software is available for purchase separately.

### **Will EV3 sensors work with the NXT programmable brick (P-brick)?**

- No. The LEGO MINDSTORMS Education EV3 sensors will not work with the NXT P-Brick.

### **Will there be an upgrade/conversion kit from NXT to LEGO MINDSTORMS Education EV3?**

- No, but the LEGO MINDSTORMS Education EV3 solution offers a good backwards compatibility to NXT and you can therefore use your NXT solution together with EV3 in many situations.

### **How easy will it be to learn the new software?**

- The new EV3 software follows the latest developments in intuitive software design which results in an extremely user-friendly interface. It comes with 48 step-by-step tutorials with video based instructions, so students now can build and program a fully functioning robot in a single 45-minute lesson.

### **How is the LEGO MINDSTORMS Education EV3 programmable brick (P-brick) different from the NXT brick?**

- The LEGO MINDSTORMS Education EV3 P-brick is a whole new P-brick and is built up around a faster and stronger processor and also introduces whole new possibilities (e.g. gyro controlled turns of your robot) not available with NXT.

### **Will EV3 robots provide an advantage over NXT robots in the FLL Robot Game?**

- The speed, precision, and new features of EV3 are an advancement over NXT, but it is important to understand that robot technology is only one of many factors leading to team success.

### **There is an infrared seeker and infrared beacon available in the LEGO MINDSTORMS EV3 product assortment. Will these be allowed in the Robot Game?**

- *FIRST* is presently looking into this for future games, but there are no plans to use these in the Nature's Fury Robot Game.

### **Will EV3 affect judging at FLL tournaments?**

- There are no plans to make any changes in the technical judging due to the new EV3 platform.

### **Will the FLL Robot Game change because of EV3?**

- FLL Robot Games will be designed to use any of the LEGO MINDSTORMS technologies.

**What is the migration plan for FLL?**

- NXT products will be available for purchase until mid 2015.
- Teams can use any LEGO MINDSTORMS platform.

**When will partners and teams have the opportunity to see the new product?**

- Partners and teams will have the opportunity to see the new product at World Festival in St. Louis, USA (April 24 – 27, 2013) and at the FLL Open European Championship in Paderborn, Germany (May 7 – 10, 2013).
- Partners will also get a hands-on opportunity at the Partner Conferences in June 2013 in USA, Netherlands and Australia, respectively.

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