

FIRST LEGO League Challenge 2015-16



Awesome Lego parts that can win you an FLL tournament

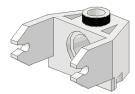
Over the years there have been thousand of parts made by LEGO. You can find them at BrickLink and many can give you a competitive advantage. Jonathan has compiled some of the more interesting parts. There are thousands more. Happy searching!

GO TO http://www.bricklink.com

LEGO Magnets

Magnets have been included in specialty kits. They can be used for all kinds of attachments, releasable items, breakaway components, and more.

Magnet Holder



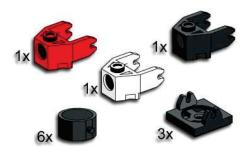
http://www.bricklink.com/catalogItem.asp?P=2607

Magnet Cylindrical



http://www.bricklink.com/catalogItem.asp?P=73092

Magnets and Magnet Holders



http://www.bricklink.com/catalogItemPic.asp?S=5397-1

Magnet Coupling, Train, for Train Base



http://www.bricklink.com/catalogItem.asp?P=735

Magnet Coupling, Train - Short for 722 locomotive power pickup brick



http://www.bricklink.com/catalogItem.asp?P=x799





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Other Parts



Offset Crossover 8462

http://www.bricklink.com/catalogItem.asp?P=32079pb01

This could be used if you have to beams hit each other to make one to go over the other one.



Hard Plastic Spoked Giant Thin wheel

http://www.bricklink.com/store.asp?p=roobert&itemID=12197550

So this part could be used for a nice wheel to get over things and up things.



Technic, Shock Absorber 9.5L, Spring (Soft)

http://www.bricklink.com/catalogItem.asp?P=110a

This could give your robot great suspension falling off things or could help making a spring powered mechanism.





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Technic, Gearbox 3 x 4 x 1 2/3

http://www.bricklink.com/catalogItem.asp?P=46217c01

This could be used as a way to power two wheels with one motor so you can use the other ones for other things.



Technic, Disk 3 x 3

If your robot needs decorations these can make it look awesome!

http://www.bricklink.com/catalogList.asp?catType=P&catID=638



*Wheel 41 mm Znap Thin Tread, with Black Tire 41 mm Directional Tread http://www.bricklink.com/catalogItem.asp?P=32247c01

If you need a robot that drives straight and true these wheels can make it do that.



*Technic Turntable Large Type 2, Complete Assembly with Black outside Gear Section http://www.bricklink.com/catalogItem.asp?P=48452cx1

This can be used as a steering mechanism or as a as a way to turn things around like an attachment.





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Technic, Panel Plate 1 x 5 x 11

http://www.bricklink.com/catalogItem.asp?P=64782

These can be used as to push things and protect things









Air Blast Launcher Air Pump, Air Blast Launcher Base, Air Blast Launcher Injector, and Air Blast Receiver

http://www.bricklink.com/catalogItem.asp?P=87943

http://www.bricklink.com/catalogItem.asp?P=87941

http://www.bricklink.com/catalogItem.asp?P=88496

http://www.bricklink.com/catalogItem.asp?P=87944

if you need a something hit but you don't have time to go to it. Use an air powered car with these parts.





*Technic Competition Cannon, Round Bottom, Technic Competition Arrow, Liftarm Shaft with Hollow Lt Bluish Gray Rubber End

http://www.bricklink.com/catalogItem.asp?P=32074, http://www.bricklink.com/catalogItem.asp?P=57028c02

If you need something hit long range use a Lego® cannon to hit it.





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In Case You Have Nothing Else to Spend Your Money On

Search on Ebay for 'rare lego' then sort by price. There are number of items over a thousand dollars. Who knew?







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Additional Cool Parts Submitted by Steve T (Aug 28, 2012)

Technic, Axle Flexible 26L (Axle 2L and 5L Ends) with Dark Gray Cable http://www.bricklink.com/catalogItem.asp?P=x334c01	
Technic, Gear 24 Tooth Clutch http://www.bricklink.com/catalogItem.asp?P=60c01	
Technic, Pin Connector Perpendicular 2 x 2 Bent http://www.bricklink.com/catalogItem.asp?P=44809	
Technic, Pin with Friction Ridges Lengthwise WITHOUT Center Slots http://www.bricklink.com/catalogItem.asp?P=4459	

The "Axle Flexible 26L" can be really handy if you need to change axis of rotation, especially at an angle other than 90 degrees. You just have to be careful you don't over-torque the axle, because the "axle" is actually just a coated spring and can be "unsprung" (i.e. permanently damaged) if too much torque is applied.

The "Gear 24 Tooth Clutch" is excellent if you want the robot to return to a previous "starting position" for an attachment. You can tell the motor to run full power and keep it running well beyond the time required to get the attachment to the predetermined location. The clutch in the gear will allow the axle inside to keep spinning even after the attachment has "bottomed" or "topped" out. This way the robot can easily "reset" its attachment to the starting position or easily switch back and forth between two extreme positions. (NOTE: The clutch gear is also helpful to use in concert with the flexible axle to make sure you don't keep twisting the flexible axle beyond its limit, thus permanently damaging it.)

The "Pin Connector Perpendicular 2 x 2 Bent" is perhaps the most useful structural element available, because it compactly and strongly supports 90-degree changes in direction (structurally), i.e. from horizontal to vertical and vice versa.

In my opinion, the "Pin with Friction Ridges Lengthwise WITHOUT Center Slots" (part #4459) is a MUST-HAVE for all FLL robots. These are identical to the "normal" black friction pins (part #2780) except that they do not have the center slots. Without the center slots, it takes about 10x force to remove them--a very GOOD thing when you want to make sure that parts that are meant to stay together actually stay together. These pins can be thought of as "legal glue" because they grip technic pieces together so well and they are, of course, fully LEGO and thus fully legal.

