

WELCOME TO BODY FORWARD!

WEEK 4 - If your team is on track:

Robot Game:

1. Robot Chassis: You are right on target if you have your robot chassis completed. This is the robot base that you will use throughout the competition. Ideally, you will not change this design. Instead, you will design attachments to help you complete missions that you can add or shed as needed.
 - a. TIP: If you do not have the rechargeable Lithium Ion Polymer battery with DC plug, you will want to purchase one. This will allow you to recharge your robot without tearing apart your chassis every time you need to change batteries. If you can avoid it, you should keep from stressing your chassis, as this can negatively affect performance. You can order a rechargeable battery on the FLL Team Registration and Events website for \$54.95 or you can order it through LEGO Education.
1. Attachments: Your building team should be designing, building and refining the attachments that they will use to accomplish missions on the table. Think about how a single attachment might be used to accomplish more than one task.
 - a. TIP: (A great best practice tip from the Cougars, Champion's Award Winner – 2009 Ohio Championship, 2nd place; 2009 U.S. Open Championship, 2nd Place; 2010 Ohio Championship, 1st place; 2010 World Festival, 3rd Place; www.cougarrobot.com): Use LEGO magnets to attach your tools to your robot. This technique allows for teams to quickly add and remove attachments without pulling and tugging on the chassis frame. BrickLink, which is like EBay for LEGO elements, is a great place to find individual LEGO parts (www.bricklink.com).
2. Programming: Your programming team should be working to program your robot's first mission.
 - a. TIP: Make sure your team knows exactly how far your robot can move in one rotation of your wheel. Consider your turn radius and calculate how many degrees it takes for your robot to turn 45 degrees, 90 degrees, 180 degrees, etc. (When you program a turn by degrees, the degree of the turn is based on one rotation of the axle – your wheel size and the distance between those wheels will affect the degree of your turn). If you have this information at your fingertips, you can take quick measures on the field and build your programs more quickly and efficiently.

Project:

1. **Research:** Your team should have settled on a topic and a solution, or, at the very least, you should have a good idea where you are going with your solution.
2. **Sharing:** Now it is time to start brainstorming an audience for your project and solution. Consider impact: Who could take your solution and assist you to implement it? A business? Local government? Perhaps getting the information out as a public awareness campaign is the direction you want to go. Is there a target audience with whom you could meet? For some groups (school boards, city councils, etc.), you need a month or more to get on their meeting schedule. Make appointments with those groups as soon as you know you plan to go in that direction. Consider

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websites, public information displays at museums or other public places, in addition to meeting with your target audience.

Core Values:

1. **Roles:** Does your team have defined roles? Is each member clear on his/her duties and responsibilities to the team? Does anyone need additional training? Additional assistance?
2. **Conflict Resolution:** Does your team have a concrete system in place to help with resolving disputes? Have you utilized the process? If so, how has it worked for you?
3. **Communication:** Is your team communicating with each other? Working together? Resolving conflicts?
 - a. **TIP:** *It is a best practice to incorporate time into your team meeting for the entire team to sit in a circle and discuss how things are going. This is a great time to review goals and timelines, discuss challenges, troubleshoot problems, and resolve tensions. A good place to put this meeting is at the beginning or the end (or both) of each practice.*

GOOD LUCK AS YOU MOVE FORWARD THROUGH WEEK 4...

