The Design Process

Whenever you set out to invent or design something, there is a logical process you use to do that. Some people just do this instinctively and don't even know they are using it. Engineers call these simple, logical steps "The Design Process". You can use these simple questions in sequence to help you design and build your robot.

- **Identify and Understand the Problem** - "What does the robot need to do?"
- **Conceptual Design** - "How will the robot do this?"
- **Design Optimization** - "Is this the best way to do this?"
- **Detail Design** - "How will the robot work?"
- **Build** - "Build and program the robot."
- **Test and Evaluation** - "Does the robot do what we want?"
- **Return to step 1 if evaluation is not positive** - "If not, start over."

WHOA! Kids didn't catch all that? Try using statements their science teacher taught them… Because the Design Process looks a lot like the Scientific Method!!!

- **State the Problem -** "What does the robot need to be able to do?"
- **Research the Problem -** "How could the robot do this?"
- **Form a Hypothesis -** "I think this is the best way to do this?"
- **Test the Hypothesis -** "Build the robot and try it"
- **Draw Conclusions from the Data -** Does the robot do what we want?"
- **If not -** start the process over again!

Pretty cool, huh?