

Engineering 10
VEX IQ – Day 1

Name: _____ **Block:** _____ **Date:** _____

Each group will be assigned a Robot kit and will be responsible for the parts, batteries, and storage of built robots.

Each group has a shelf for storing their 2 boxes and robot. In the back office we have a charging station for your “brain” battery and controller. Both your battery and controller should be put into the charging station at the end of each class. Each controller is synced to a specific brain.

Robot Box Number: _____

Team Members:

Project #1

Warehouse challenge:

Each group will need to build a robot capable of lifting pallet onto warehouse shelving as quickly and ‘safely’ as possible. Each end of the competition field has as set of shelving with points assigned depending on which shelf you put your pallets on. Details of points will be explained in class.

There are two main methods of lifting your pallets:

1. Forklift style with a platform that moves up and down on a pulley type system
2. grabbing hand and arm similar to the Clawbot in the introductory handbook



Default programming allows ports 1,6,7,12 for movement of motors controlling your wheels with the controller thumb-sticks. You will need to figure out what other ports can be used to pair up extra motors with your controller buttons!

The first recommended thing to do is spend one day playing with your robot kit and trying to make a robot that can drive forward, back, and make turns. A basic driving chassis is the foundation of everything. Not all kits have the same parts, do not trade or steal from other groups.

The second thing you should do is figure out how to attach pieces to it to create your mechanical lifting parts. You may need to modify your chassis to keep it rigid and allow for

more accessible areas to attach parts to. I will come around and give each group a basic demo on this.

Every day each group member should receive an assigned duty. It is recommended that each day you rotate roles.

Roles:

-Team manager/supervisor

-keep an eye on the time, make sure everyone is contributing, check for parts fallen on the ground, etc

-Designers

-research, paper development, idea generators

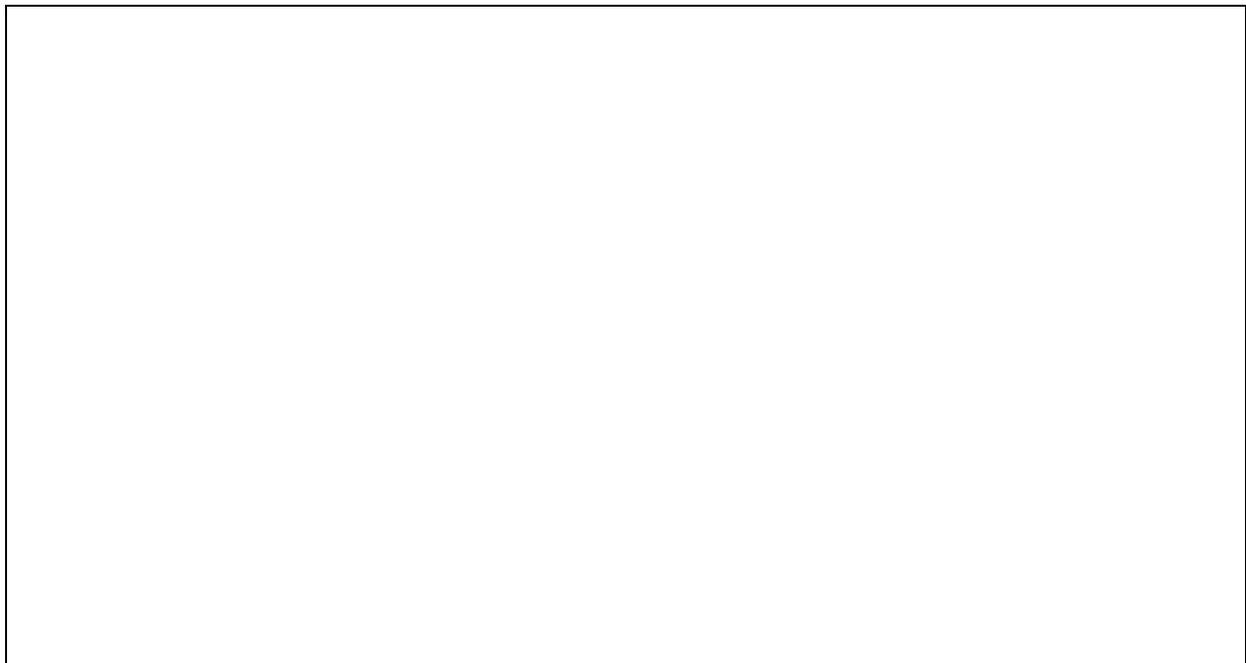
-Guilders

-get those parts put together and work closely with your team members to assembly your planned robot

-Gophers

-gopher this, gopher that

In the space below draw a side view of what you think will be a successful robot. The parts you draw should look like the parts in your robotics box. I recommend at least 2 different sketches! This drawing is individual. Bring this drawing to your group and vote on what design you think will work the best.



The Warehouse challenge competition will be 4 classes from now