Today was the day after our Thanksgiving Break. Today, we brainstormed and started working on a possible robot.

Problem: Our current robot, which used the VEX Moby design, could only pick up mobile goals, but it would do it ineffectively. The arms would become loose or the weight of the mobile goals would not be enough for the arms to pick up. Also, it was difficult for the robot to go onto the balancing platform. We need to create a robot that would be able to pick up mobile goals and go onto the balancing platform as quickly as possible.

Brainstorming Possible Solutions: We brainstormed possible solutions. The first was to use an arm that would pick up the mobile goals by their branches. The arm would allow us to precisely maneuver where the mobile goal would go. The second solution we brainstormed was to use a robot with all wheel drive. The Moby design had four wheels and only had two wheel drive. If we had a robot with four/all wheel drive, it should be able to go onto the balancing platform. The third solution was to use a plow. This plow would push mobile goals across the field. This would decrease the time it would take to pick up a mobile goal. With these solutions, we created two possible robot designs…

Sweeper Design

* 2 wheel drive
* A plow in front of the robot to move mobile goals without them slipping to the sides
* An arm to pick up mobile goals by the branches. Can rotate 360 degrees vertically

**[INSERT SKETCH OF SWEEPER DESIGN]**

Double Picker

* 4/all wheel drive
* A plow in the front and back of the robot to move the mobile goals without them slipping to the sides
* A thicker arm to pick up mobile goals by the branches. Can rotate 360 degrees vertically

**[INSERT SKETCH OF DOUBLE PICKER]**

Selecting the Solution: We chose to create a robot with the Sweeper Design. This would feature a plow and an arm. The plow would allow us to move the mobile goals and the arm would allow us to pick up the mobile goals and place them onto the balancing platform. We did not choose the double picker design because the motors were in the way of the plow. Meaning, if a mobile goal were to enter the plow, the motor might be pushed or it would prevent the mobile goal from leaving the plow.

Building the Solution: Cyrus and Clark took apart one of our Moby robots to scrap for parts. Now, we have one functional Moby robot. Jayla and Kaitlyn worked on making a better Moby robot, as they were more experienced now. Andrew tested the autonomous period on the Moby robot.