

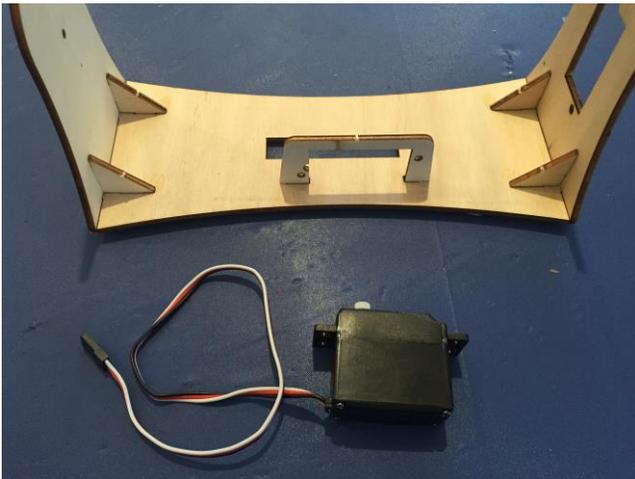
## Maze 3



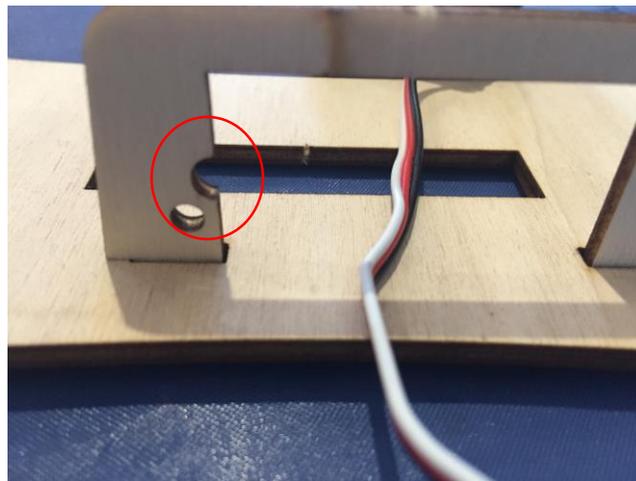
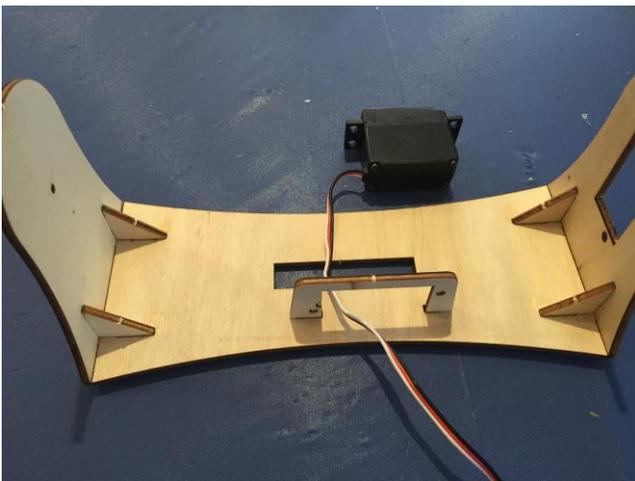
Before starting, check the parts we assembled in the previous lesson.

If needed, take time to fix any parts that were not glued correctly.

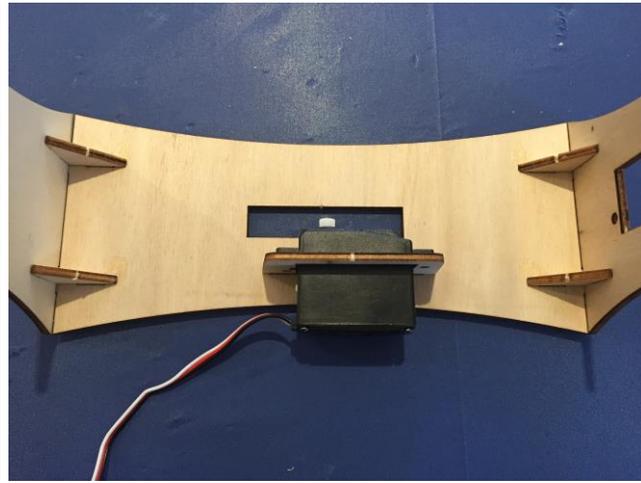
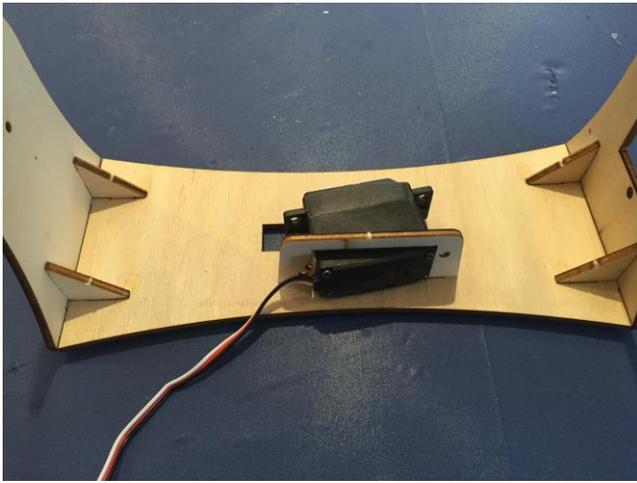
Once all the students have their parts assembled correctly continue to today's lesson plan. We are going to assemble the servos. Give the students instructions of how to properly use the servo.



Take out from the plastic bag the part shown in the picture and hand each student 1 servo



In order to insert the servo correctly, first we need to insert the wire. In any servo frame we will have a small round crack (red circle) which indicates what side the wire must be.



Once the wire was inserted, slide the servo in, notice the direction of the wire is set be the round crack in the frame.

Slide the servo into its place.



Check the servos before handing out the screws.

Hand each student two 10 screws (servo screws) and two regular locknuts.



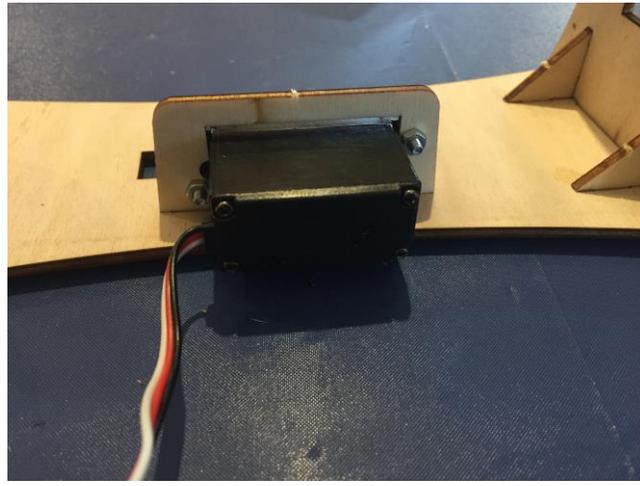
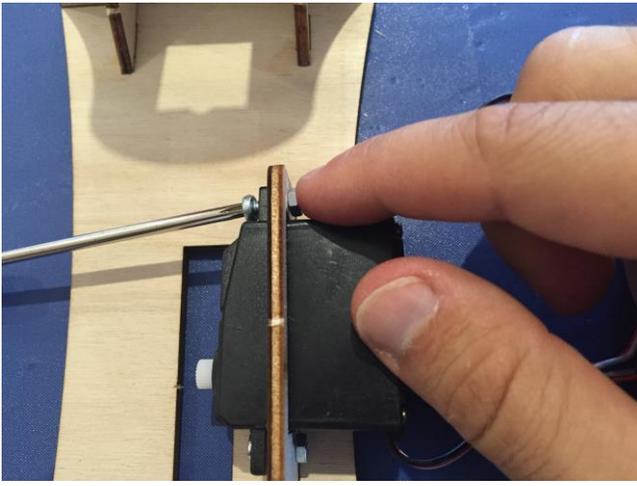
Insert the first screw and lock it with the locknut.

**DO NOT HAND OUT SCREWDRIVERS YET!!**

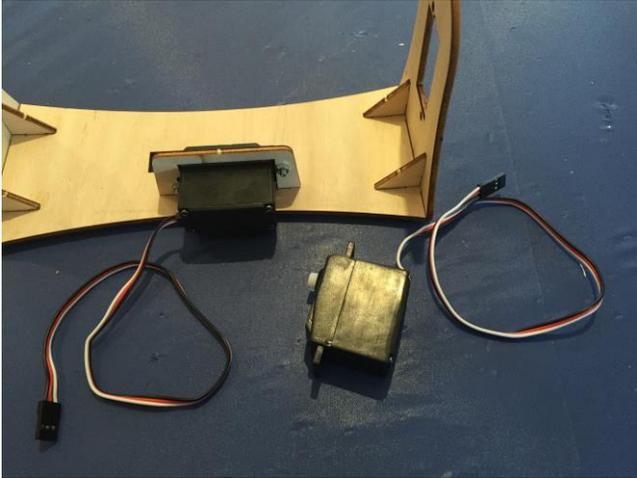


Insert the 2<sup>nd</sup> screw and lock it with the locknut.

Once the students have both screws in place you can hand them a screwdriver. First, give them safety instructions regarding using a screwdriver.



Place your finger on the locknut and tighten the screws as much as possible. Ask the students to place the screwdriver in the middle of the table once they are done.

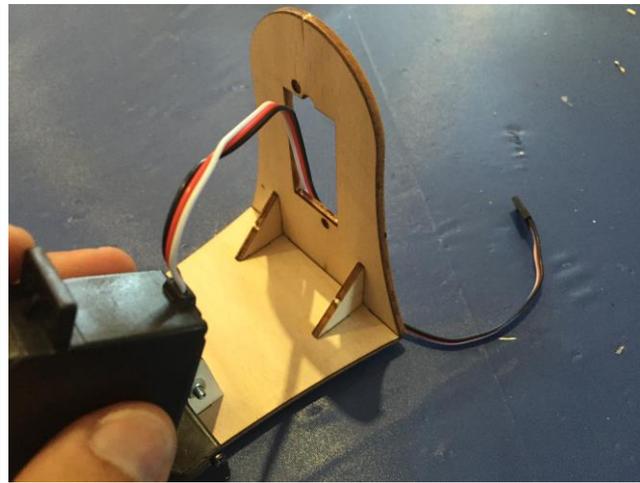
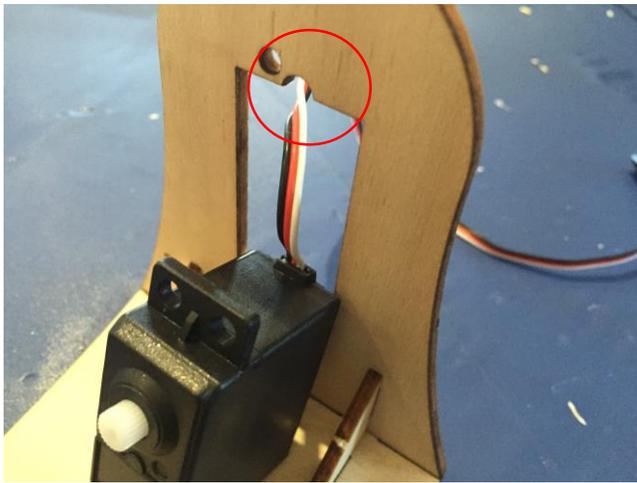


### CHECKPOINT!!!

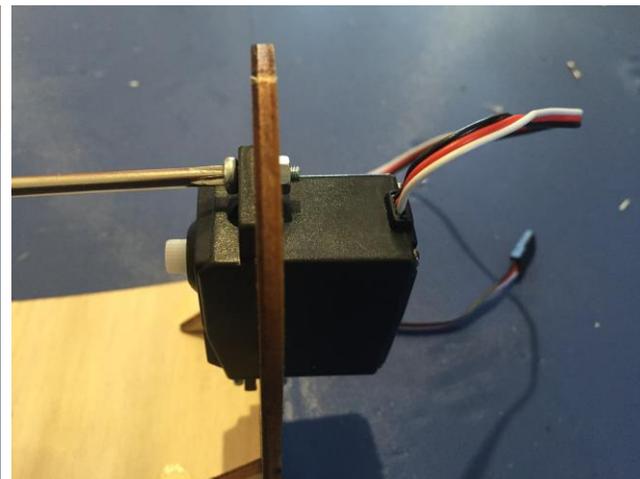
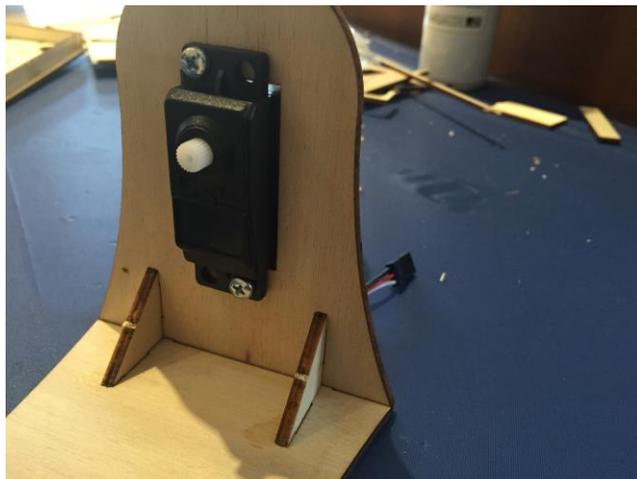
Check that all students have the servo in the right position and secured to its place.

Make sure no one is playing with the screwdriver.

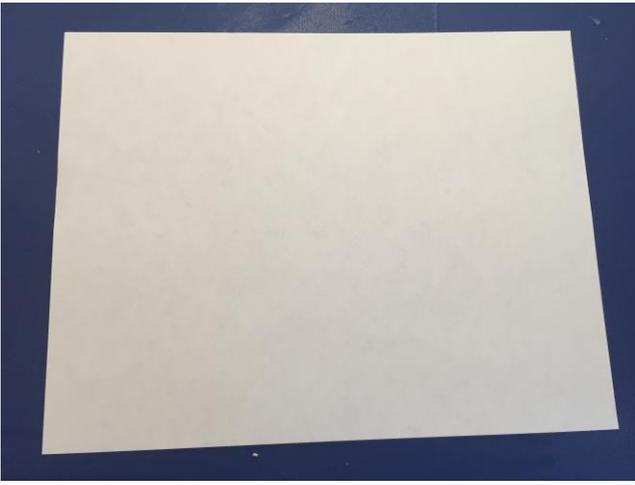
Once checked, hand the students another servo.



This time we insert the motor from the inside going out. So first we thread the wire through the frame, notice this time the wire should be facing up.



If the students inserted the motor correctly, hand them 2 more servo screws and 2 regular locknuts and secure the servo to its place. Collect all screwdrivers when done!

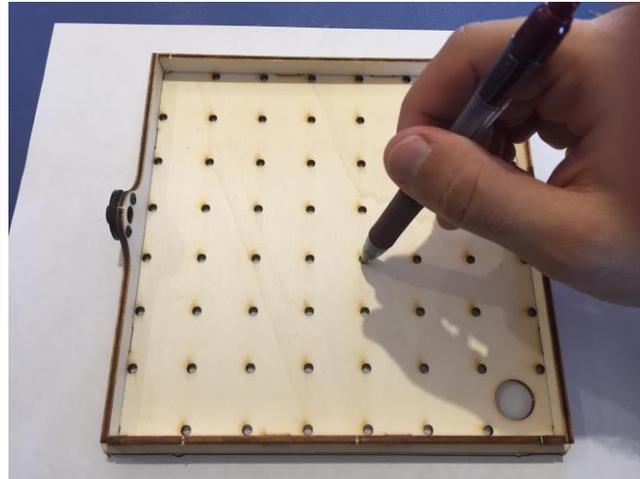


### CHECKPOINT!!!

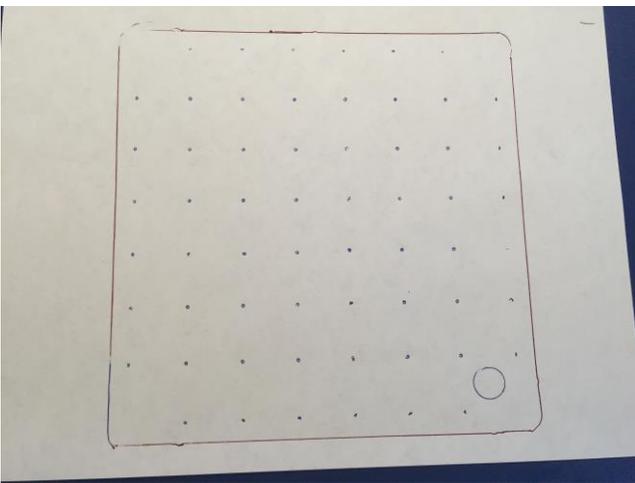
Check all models and make sure both servos are properly installed. Collect all the screwdrivers. Have the kids put the part we assembled with the servos in their plastic bags.

Once done, check the time. If you have time (20-30 minutes), do this part. If not, skip it entirely for this project, scroll down and go to the next page to the picture marked with a green star (\*)

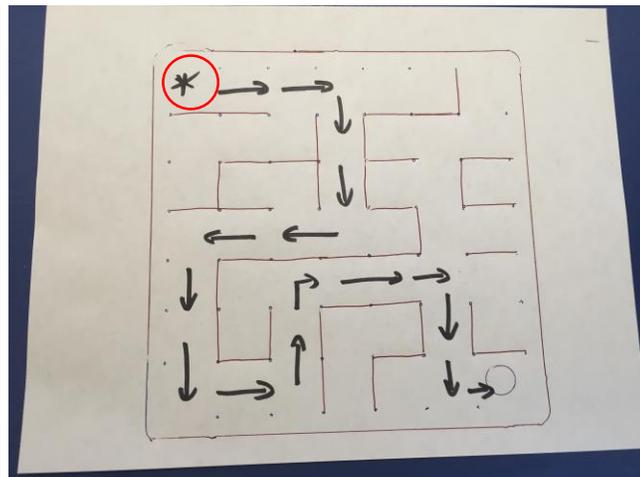
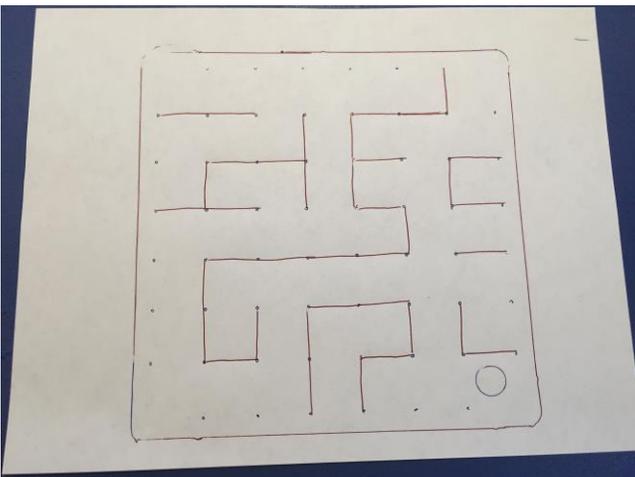
If not skipping: hand each student a blank white paper.



Place the maze on the paper. Draw down its borders and mark the holes.



Once you're done, you should have a sketch of the maze.



Start drawing your maze, using straight lines only.

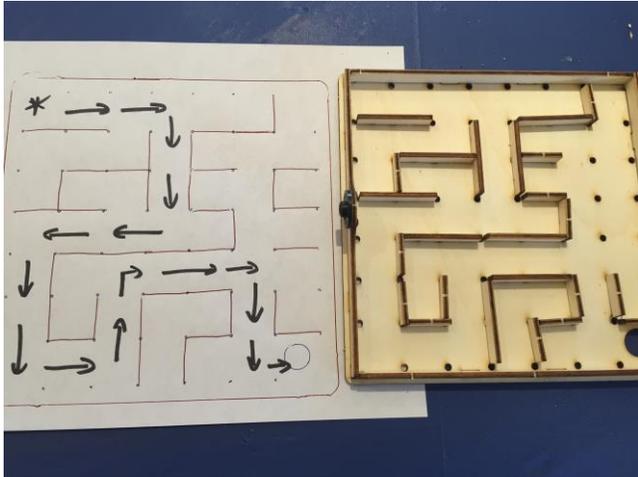
Set a starting point (red), the end should be the large round hole. Mark the right path to solve the maze.



If you skipped to this picture: start popping this parts out and randomly design your maze track (see next picture for example). Be aware of the time, you can continue with the track next lesson as well.

If not skipped, pop out these parts and start assembling the maze like your sketch.

**BE AWARE OF THE TIME!!!** Make sure that 5 minutes prior to the end of the class, students place all their parts in their plastic bags, collect the bags and clean the classroom.



If you had done a sketch, you can start assembling your maze according to it.

If not enough time, you can continue this in the next lesson.