

This year's Middle School LEGO Robotics team consists of seven members, Kyra Abitz, Alex bolsoy, Dillon Frnke, Jaret Hanson, Anna Karus-Haydeen, Marcos Roldan, and Logan Williams and is coached by Sharlene and Tim Brown. The overarching topic assigned by First LEGO League this year is food safety, specifically the study of contamination and spoiling of food.

On Tuesday, November 16th, the Woodland Middle School LEGO Robotics Team, The Seabots, went to the Lewis River Fish Hatchery to study the "cold chain" process of donated Coho Salmon that goes to the North County Food Bank in Battle Ground. The cold chain is a record of the time and temperature that food goes through from the moment it is harvested to the moment it is purchased or given to the consumer.

While at the hatchery, the students measured, recorded and photographed the anesthetization and sorting of the fish. They recorded water temperature, air temperature, amount of time between when fish were taken out of the water and placed into iced holding tanks, and the temperature of the holding tanks that the fish were in. The team found out that thousands of fish are donated to food banks each year by the hatchery. They also discovered that the hatchery works closely with the Fish First group to supply salmon that are used for "nutrient enhancement" in streams that have populations of wild fish. This encourages the growth of the newly hatched salmon.

After the hatchery, The Seabots followed the fish to the Royal Ridges Christian Youth Camp where all 243 salmon were removed from their holding tanks, filleted, and taken to the kitchen where the fillets were cut up, bagged and placed in ice chests. Once again, The Seabots were busy measuring the time it took to fillet the salmon, to cut it up, package and ice down the fillets. They took the air temperature, and the temperatures of the holding tanks and ice chests. One of the team members wrote a computer program that allowed the team to use the computers that were intended for the robots to record the time and temperature of the holding tanks and ice chests throughout the day, to import the information into a spread sheet.

The fish were then transported to the North County Food Bank and put into their freezer where TTTs (time/temperature tags) were placed onto many of the packages. TTTs are tags that tell consumers if the food has been kept at the proper temperature, or if it has suffered "temperature abuse". The TTTs measure temperature abuse using degree-minutes that are calculated by multiplying the number of minutes the fish is above freezing by the number of degrees it is above freezing. The Food Bank will be able to use these TTTs to show their customers that the salmon has been kept frozen. All of this information will be made available to the Food Bank when the team is finished their research.

On December 10th The Seabots competed with twenty other teams from the Portland area at Catlin Gable school in a regional qualifying competition and took home the champions trophy. This qualified the team for the Oregon State Championship that will happen at Liberty High School in Hillsboro, Oregon on January 14th. The Middle School team has brought home trophies from the state tournament for the last four consecutive years and has finished 2nd or 3rd out of over 350 teams in two out of the last three years. This year there were over 420 teams that competed in qualifying competitions throughout the state.