

Our FIRST LEGO League robotics team, the AstroKnights, has been working together for the past 6 months. The team consists of six West Jordan boys and girls ranging in age from 9 to 14. They are led by coach Katie Wesley who is only 18 years old and still attends a local High School. She is one of Utah's youngest coaches for FIRST LEGO League.

This year, the robotics challenge included an innovation project that encourages children to identify and improve on something in their community. During the summer they met with members of the West Jordan city council. The councilman expressed concern for eight problems in the West Jordan area. The children researched each of the ten problems and built prototypes for two of the issues. The team voted on the problem that West Jordan fire hydrants sometimes get covered in snow and become difficult to find by firefighters during an emergency.

The team visited the West Jordan Water Works and spent several hours with a representative of Mueller. Mueller is the manufacturer of the most commonly used fire hydrant in Utah. The team continued to prototype and developed a method of using a small electronic board that could detect a wireless signal. Once the signal is received, bright lights mounted to the top of the hydrant (the bonnet) would blink for several minutes and allow firefighters to see the hydrant even if it buried under a foot of snow.

The team members learned how to program an Arduino using C++ and each member of the team learned how to solder wires together. They learned about capacitors and solar panels.

They have developed other ideas for finding the hydrants in bright sunlight, or if the hydrant cannot be seen at all. They also are discovering ways to detect water leaks and other important data that could help save money for the city and prevent damage.

They shared their completed prototype with the West Jordan Fire Department in Jordan Landing.



In January, the AstroKnights took part in a local FIRST LEGO League qualifier held at SLCC. There, they competed in four categories including robotics and project innovative project design. The team was awarded a project design award and asked to progress on to the FIRST LEGO League Utah North State Championships held on February 1st at Weber State University. There, they received the First Place Innovative Solution Award and were nominated for a Global Innovation Award. Normally their season would be complete at this point. However, with the Global Innovation Award nomination, the team has been asked to continue to develop their project and refine their design. The idea is to promote quality engineering skills in America's youth. Only a small number of teams receive this nomination throughout the world. The Astro Knights are to compile a packet of information regarding their project answering some very specific and detailed questions including what they would like to accomplish with the project if they had the financial backing. A team of judges will determine which of the ideas are promising and are most innovative. About twenty of those teams will be invited to Orlando to continue the process of refining their ideas with large name-brand sponsors. The Astro Knights are working hard and hope to be invited to this event.





