

Our Love Affair with LEGO®

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I remember the moment clearly - it was in 2018. As I chatted with a colleague, my eyes were drawn to their computer screen. The words "Free LEGO®" seemed to leap off the screen at me. Upon closer inspection, I discovered that, thanks to generous funding from the Reece Foundation, the Nissan Skills Foundation was offering schools in the North East the opportunity to participate in the First LEGO® League Challenge program.



The Early Years

That chance glance at a colleague's email was the beginning of Wardley Primary School's adventures in First LEGO® League. Once we had received our 'Into Orbit' Challenge set and I had attended a day's training at Nissan, we were ready to take our first tentative steps into the unknown.

The children built the mission models and coded their robot. They came up with an innovation project which sought to solve an astronaut's feeling of separation whilst in Space. We were ready for our first event.

At events, teams are assessed in each of the four areas:

Robot Game: teams program their robot to autonomously complete a series of mission on the game field.

Innovation Project: teams identify a problem associated with the annual theme, design a solution to solve it and develop a presentation to communicate that solution.

Core Values: whilst competing teams need to demonstrate values including innovation, teamwork and inclusion.

Robot Design: teams must explain the process of designing, building and programming their robot.



Competition

As daunting as they may sound, attending regional and national events have always been the highlight of the season. Our teams return from events feeling affirmed and encouraged by the interest shown in them. It is amazing watching pupils blossom as they discuss the intricacies of their designs with judges. One of the First LEGO League's core values is fun and there is always plenty of it when teams meet together to compete.

In our second year, the team designed shirts emblazoned with the motto: *You can't lose at LEGO®*. Their premise was simple: if you have spent all season doing something you love, if you have spent every team meeting solving problems and developing your resilience as a designer and engineer, then you have already won – the outcome of an event can't detract from or lessen your personal growth – it can only add to it.

Our experience of solving missions, has always been that reliability is born out of repeated failure and iteration. Children spend hours developing their code, their robot and its attachments until they get to a point where they work together in harmony and solve a mission consistently every-time. When designing our mantra is this: 'if you change one little thing about your robot – you've changed everything'. It is precision engineering after all!

The pupils of Wardley Primary School love First LEGO® League because it is really hard. The harder the struggle to design a solution; the sweeter the feeling of having solved the mission!

'Robotics For All'

That first year, it was easy to see the difference that taking part in the Challenge program was making to our pupils. They seemed more confident, more able to overcome problems.

After that first season a question kept popping back into my head. How could we get more of our children to experience what our LEGO® team had just experienced?

A bit of research revealed that First LEGO® League has the following three age categories:

First LEGO® league Discover (age 4-6)
First LEGO® league Explore (age 6-9)
First LEGO® league Challenge (age 9-16)

With the help of the IET and its fantastic generous supporters, we have been able to introduce all our pupils to the joy of participating in the First LEGO League. Personally, I have had the privilege of running all three programs at different stages during my time at Wardley Primary School and the benefits of doing any of them are tangible instantly.

All of the children in the school participated during our STEM week in July. I was extremely proud of the way the teachers all stepped out of their comfort zones and embraced it – very much as I did in that first season of the challenge. During one lesson, a 6-year-old proudly announced that he was almost an engineer because he was a good builder. We explored gears and incorporated them into our designs and the children had to learn teamwork and grapple with decisions like how they should respond if someone else wanted the same piece of DUPLO as them. If you are looking for a program to get involved with, I have no hesitation in recommending First LEGO® League. As the Tech Ninjas put it – you can't lose at LEGO®.

YouTube: @WardleyRobotics

Links



First LEGO® League
www.firstlegoleague.org



Reece Foundation
www.reece-foundation.org



Nissan Skills Foundation
tinyurl.com/5n95yjcr