



**Highly Commended**

# **Programming, Apps & Robotics Year R-2**

**Adelaide Donovan-Lawlor**

**Highgate School**



# Oliphant Science Competition 2021

Halloween COVID-Safe Robots

# Aim, scientific purpose and application

- I like Halloween because I like going to our neighbours and collecting lollies.
- Last year we couldn't have our Halloween party or collect any lollies because of COVID 19.
- COVID 19 is spread when people who have COVID 19 touch things and then people who do not have COVID 19 touch those things and catch COVID 19.
- I have made a robot so children can collect lollies at Halloween without someone touching them so it is safer.

# Robots I used

## Botley 2.0 and LEGO Boost



# Halloween COVID-Safe Robots

- First, the Botley moves the lolly to the LEGO Boost at the ramp.
- The visiting child holds their Halloween bucket at the bottom of the ramp.
- The LEGO Boost swings his hockey stick and knocks the lolly down the ramp into the bucket.

# Instructions

- Program code into Botley
- Program LEGO Boost robot with hockey stick
- Open packet of individually wrapped lollies
- Use tongs to remove lollies
- Place lolly on X
- Press 'transmit' on the Botley remote
- Watch Botley move the lolly to in front of the LEGO Boost
- Press the 'play' symbol on the iPad for LEGO Boost
- Watch LEGO Boost hit lolly down the ramp into someone's bucket

# Code for Botley





# Code for LEGO Boost





# Step by step photos



A lolly is placed on the X.

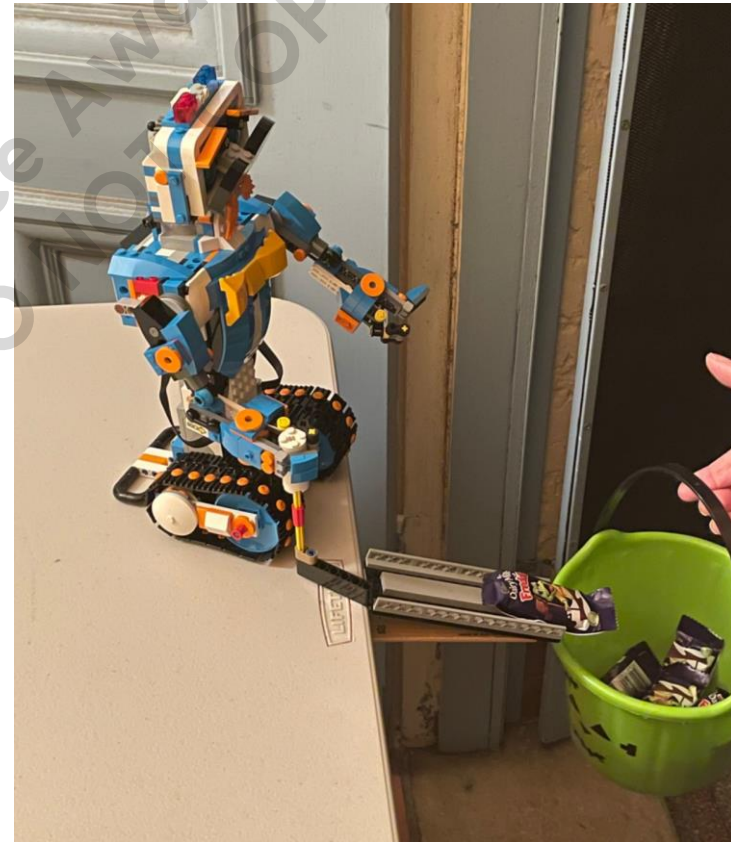


The Botley moves the lolly to the LEGO Boost.

# Step by step photos



The Botley places the lolly in front of the hockey stick.



The LEGO Boost hits the lolly down the ramp into the Halloween bucket.

# Room for improvement

- A lolly dispenser like a PEZ on a timer instead of a person placing the lolly
- My robots are slow so children will have to wait, more robots or faster robots would be an improvement
- A stronger ramp

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# Acknowledgements

- Mum helped me build the LEGO Boost when I got stuck
- Dad helped me buying the lollies.

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