

EXAMPLE EMAIL TO MENTORS

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Resources

- Link to the Into orbit challenge instructions, rules and scoresheets and other information is <http://firstlegoleague.org/challenge#block-block-19>; download all these before mid-next year as they will be replaced with next year's challenge info
- Link to Youtube Into Orbit Intro video – which explains all the tasks - good to review with kids regularly <https://www.youtube.com/watch?v=IY1Z9kK71jQ>
- Whilst we do adhere to the game rules in most cases our judges will be reviewing them and sending out any clarifications or changes to teams at the start of the program
- You will be supplied with the challenge table, challenge pieces, challenge mat and two training mats. The challenge mat will have to be trimmed and we will advise you of the measurements before the program starts
- The following resources are allowed per team; this is to ensure all teams use the same materials:
 - Each team will be able to use the Ev3 Core set and expansion kit +
 - 1 extra colour sensor
 - 1 extra medium motor
- Mindstorms Software (education edition):
<https://education.lego.com/en-au/downloads/mindstorms-ev3/software>; after you have downloaded the education Mindstorms software you can download curriculum content like the EV3 Science Curriculum:
<https://education.lego.com/en-au/downloads/mindstorms-ev3/curriculum>

Please see below the 10 Week structure for the Isaac Libraries, please feel free to amend the content as needed. As discussed, the first two weeks in the libraries are structured around team building, behaviour and an introduction into Lego Mindstorms. If possible, it would be good if the challenges (Lego pieces) can be built in the last week of Term 2 and basic coding knowledge (as per the below outlined homework) can be taught. In Term 3 you would then start to code for the challenges, build attachments and prepare teams for the Tech Fest. This will give you 8 weeks to complete as many challenges as possible and run a school competition, with the winner going to the Tech Fest. This way your teams spend the same amount of time on the coding and building as the other teams.

In the 1st Session 2hr

- Part 1 30min
 - Setting behaviour and project expectation
 - Watching last year's challenge video (produced by Isaac)
- Part 2 1hr
 - Giving hardware overview: motors, brick, connections, sensors
 - Building the robot as a team (team building exercise)
 - Learn how to clean up the boxes (everything you take out goes to the exact same place unless used)
- Part 3 30min
 - Overview of the essential coding blocks in correspondence with motors and sensors
 - Homework: Download Mindstorms and write a program to make the robot drive forward

and back into starting position

In the 2nd Session 2hr

- Part 1 1hr
 - Revisiting homework and coding components
 - Use the training mats to write a code for the colour sensor (stop on a colour)
 - If time: Start writing a code to do the circle (training mat)
 - Homework: Build a code to make the robot drive forward until it can read the colour blue; if it reads the blue stop. If it reads yellow drive back to start.
- Part 2 1hr
 - Watch current year's challenge video
 - In pairs of two build a challenge

In the 3rd Session 2hr

- Part 1 30min-1hr
 - Go through the homework
 - Start to work on the circle an oval
 - Homework: finish the code for the circle and oval
- Part 2
 - Re-watch the challenge video and see how the challenges are to be completed
 - Set up the challenge mat
 - Build more challenges and place them on the mat (make sure to use the mat setup and the video to place the challenge pieces correctly)

In the 4th Session 2hr

- Part 1
 - Go through homework
- Part 2
 - Complete building all challenges and discuss which challenge/s should be attempted first
 - Homework: come up with a team name, bring a photo for the team poster, start building code for your challenge

Session 5+ 2hr

- Work on your challenges
- Come up with a team and individual introduction for the Tech Fest
- Complete the team poster

Timeline

- Mentor Training 20/05/2019 – 14/06/2019;
- Start of Lego Robotics 17/06/2019;
- Tech Fest 7/09/2019

The Tech Fest is held at the Dysart community centre on the 7th of September. I will send you an invitation to the Moranbah mentor training closer to the date.

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