**Lego Mindstorms!**

1. Background Reading!

# American Library Services for Children. LEGO Mindstorms for Tweens (Or How I Had to Give Myself a Crash Course in Robotics). 2014. Accessed March 31, 2018 at <http://www.alsc.ala.org/blog/2014/11/lego-mindstorms-for-tweens-or-how-i-had-to-give-myself-a-crash-course-in-robotics/>

# This article gives a great background to Mindstorms Robotics. It also gives a good overview to the DIY ethos that Mindstorms Programmers need to have!

# Makerspace: Makerspace Playbook: School Edition. Accessed March 31, 2018 at <https://makered.org/wp-content/uploads/2014/09/Makerspace-Playbook-Feb-2013.pdf>

# I have read this article many times! It gives great background reasons as to why to have a makerspace, and on the importance of engineering and inventing from childhood onward!

# Before the Day of Your Program!

# Ensure that your tablets/smart devices are charged, and have the most up-to-date form of Bluetooth connectivity. Ensure that you have wifi booked and available. Ensure that you have one tablet or device per kit.

# This is essential to the success of your program! Ensure that you have the various Mindstorms apps downloaded to your devices: These include: Mindstorms Commander, Lego EV3 Education and Fix the Factory Apps. This is necessary as the apps contain the downloadable instructions.

# Purchase a large package of AA batteries! Buying double will ensure that, in the event of discharge or another staff using them prior to your day, you will have enough batteries for your projects.

# Sort out your pieces in the way that you can best help your program participants, whether by color or by function. Purchasing a sorting box/tray from your local dollar store will suffice, as will purchasing Ziploc bags.

# Arrange a partnership with your local high school for teen volunteers/program experts. This satisfies their need for volunteering and your need for skilled programmers! At Moose Jaw Public Library, we are using our CWEX student as this is an area of expertise of his!

# Day of Program!

# Lay out one kit per tablet. This program works best if you facilitate rather than dictate what the students do!

# Allow 90 minutes to two hours for your program!

# Establish your rules of the room from the outset on a white board of piece of chart paper (i.e. one tablet and kit per pair, or leaving your pieces at your place when you leave your station, or no snacks at the table, etc.)

# Allow the groups to work at their own pace, and to choose which bot they build! Some will finish quickly, and can use various apps! Others may use the entire time with the build!

# At the midpoint, introduce a brain break! Tech down, and time to talk!

# Possible games to play include:

# Captains Coming! <https://www.teampedia.net/wiki/index.php/Captain%27s_Coming>!

# CodyRoby <http://codeweek.it/cody-roby-en/>

# Note: CodyRoby is particularly fun when you create the board using painter’s tape on the floor! Print and laminate a picture of a trophy for the board, as well as multiple copies of the cards provided on the website, and you have a fun game!

Please note: this program works best with as little structure as possible given it! It is easy to run, and once the initial setup is complete, takes little preparation!