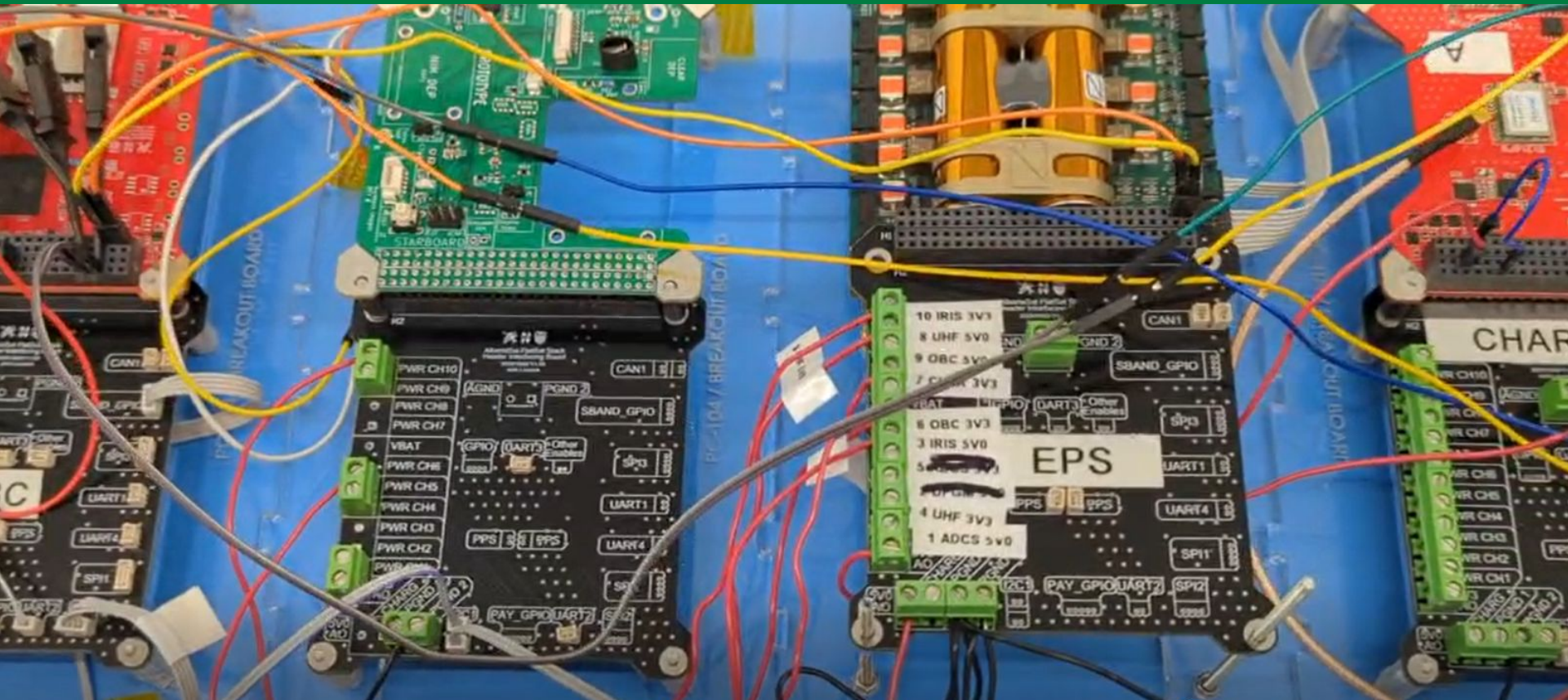


The logo for AlbertaSat features a stylized satellite or orbital path icon. It consists of two white elliptical orbits intersecting at a central point, with a green line representing a satellite or a specific orbital path. The text "AlbertaSat" is written in a clean, white, sans-serif font to the right of the icon.

AlbertaSat



Satellite Electronics



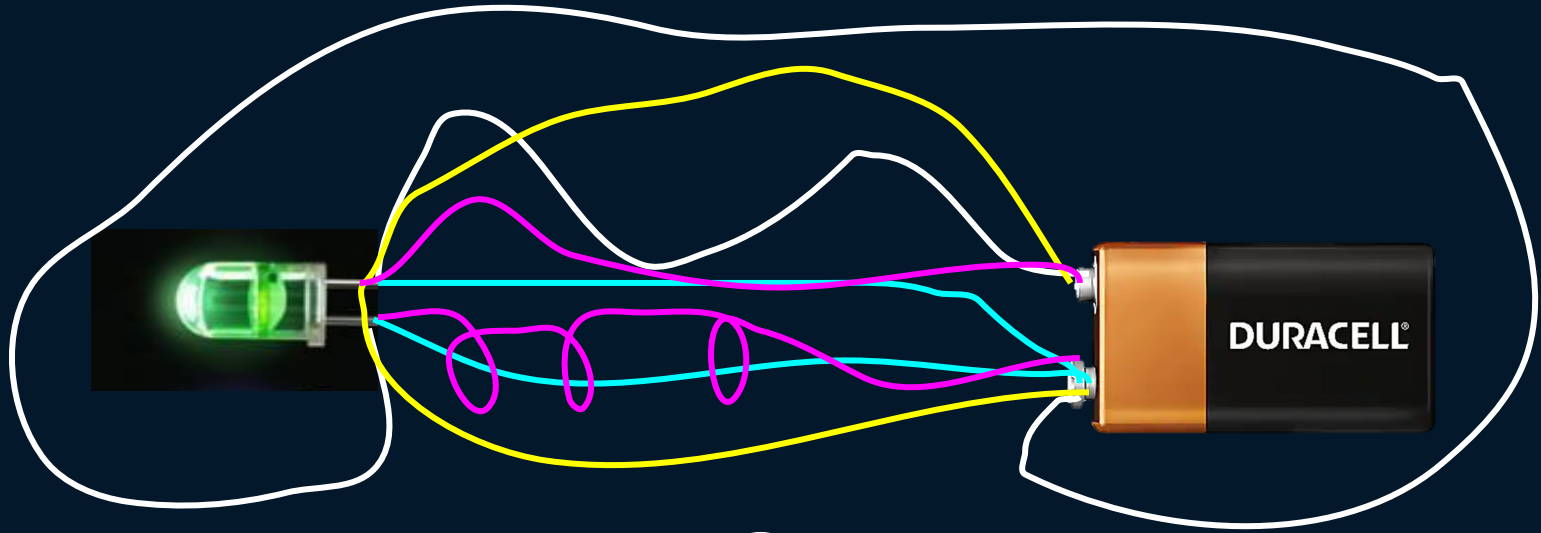
Electrons flow in closed loops



The circuit has to be complete (one continuous path) for the electrons to be able to flow and power the light



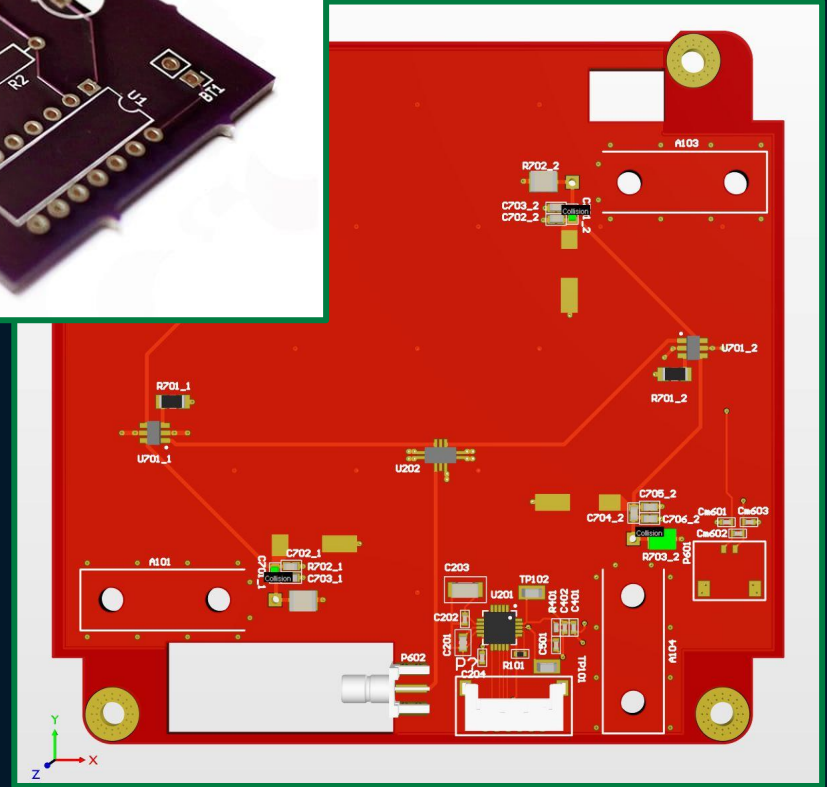
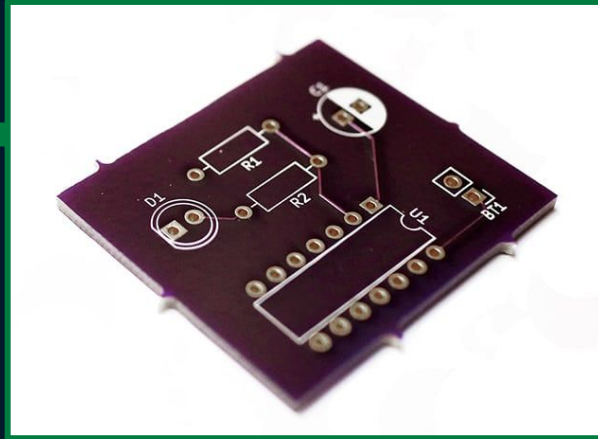
Will the light light up?

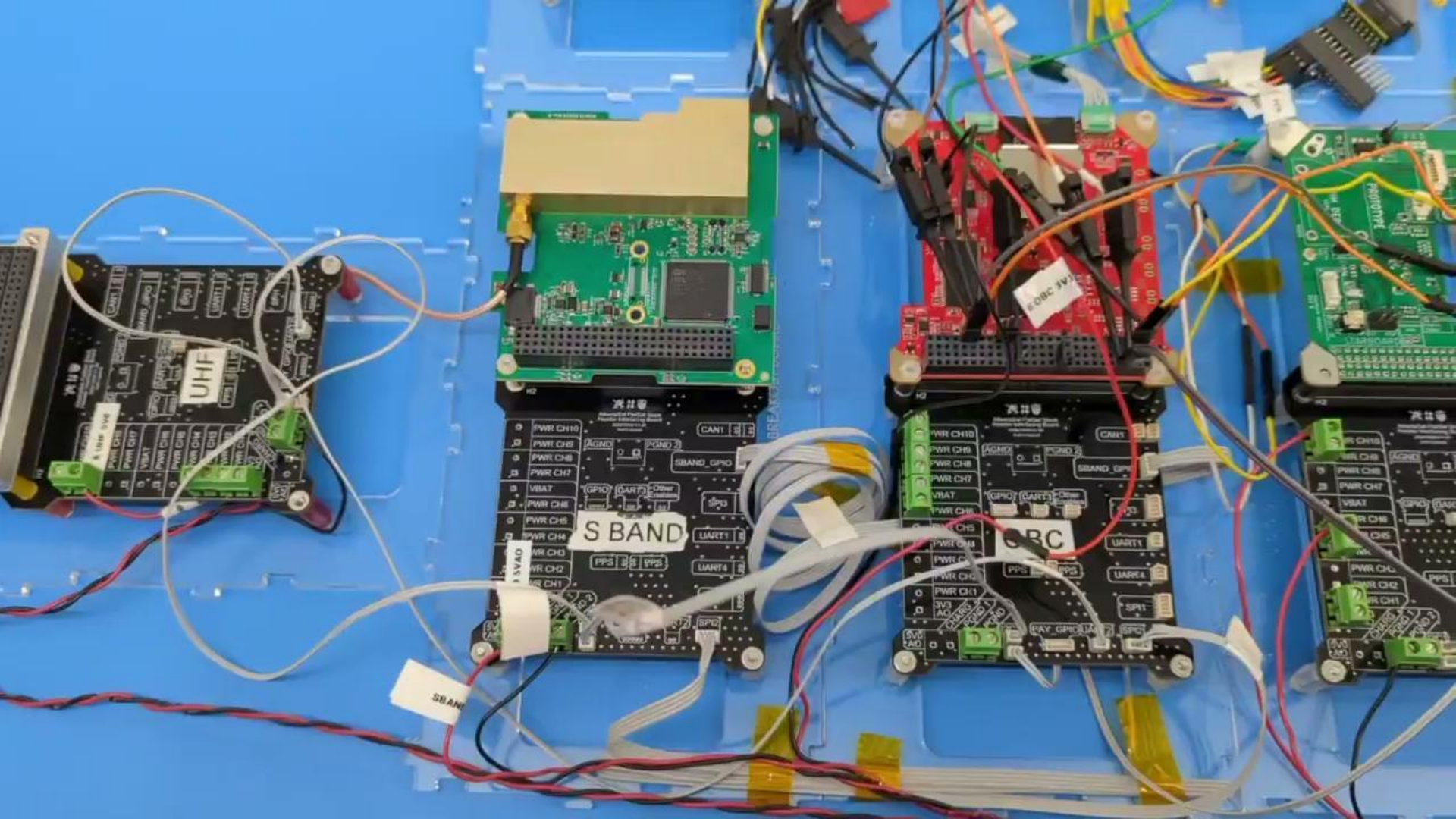


YES!!



Printed Circuit Board





UHF

S BAND

SRC

E-ORC JV

3.3VAD

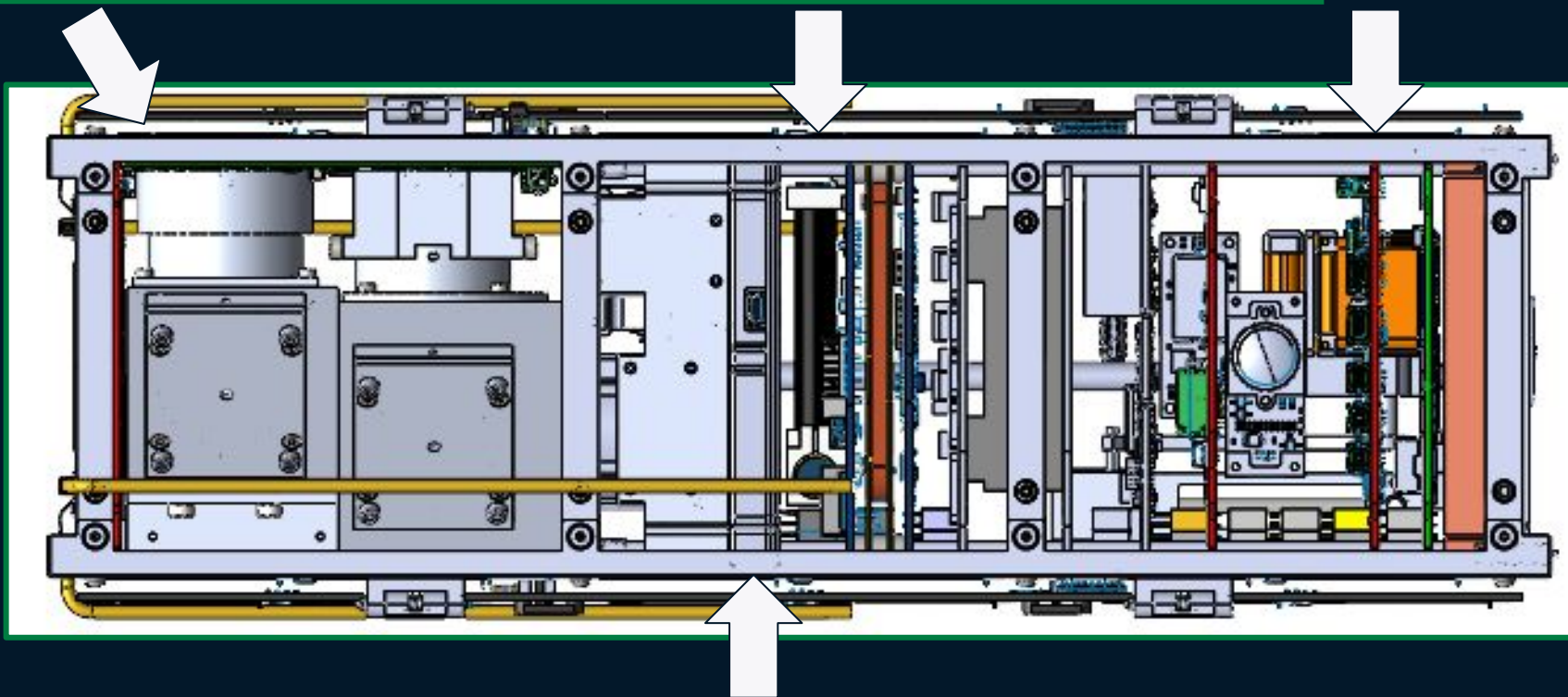
UHF Module: A black PCB with various connectors and components. Labels include 'UHF', 'PWR CH1' through 'PWR CH8', 'UART1' through 'UART4', 'CAN1', 'CAN2', 'SMB', 'I2C', 'SPI', 'PPS', 'GPS', 'GPS2', 'GPS3', 'GPS4', 'GPS5', 'GPS6', 'GPS7', 'GPS8', 'GPS9', 'GPS10', 'GPS11', 'GPS12', 'GPS13', 'GPS14', 'GPS15', 'GPS16', 'GPS17', 'GPS18', 'GPS19', 'GPS20', 'GPS21', 'GPS22', 'GPS23', 'GPS24', 'GPS25', 'GPS26', 'GPS27', 'GPS28', 'GPS29', 'GPS30', 'GPS31', 'GPS32', 'GPS33', 'GPS34', 'GPS35', 'GPS36', 'GPS37', 'GPS38', 'GPS39', 'GPS40', 'GPS41', 'GPS42', 'GPS43', 'GPS44', 'GPS45', 'GPS46', 'GPS47', 'GPS48', 'GPS49', 'GPS50', 'GPS51', 'GPS52', 'GPS53', 'GPS54', 'GPS55', 'GPS56', 'GPS57', 'GPS58', 'GPS59', 'GPS60', 'GPS61', 'GPS62', 'GPS63', 'GPS64', 'GPS65', 'GPS66', 'GPS67', 'GPS68', 'GPS69', 'GPS70', 'GPS71', 'GPS72', 'GPS73', 'GPS74', 'GPS75', 'GPS76', 'GPS77', 'GPS78', 'GPS79', 'GPS80', 'GPS81', 'GPS82', 'GPS83', 'GPS84', 'GPS85', 'GPS86', 'GPS87', 'GPS88', 'GPS89', 'GPS90', 'GPS91', 'GPS92', 'GPS93', 'GPS94', 'GPS95', 'GPS96', 'GPS97', 'GPS98', 'GPS99', 'GPS100'. A white label 'UHF' is placed over the top section.

S BAND Module: A black PCB with a green daughterboard. The daughterboard has a yellow antenna and a white label 'S BAND'. The main PCB has labels 'S BAND', '3.3VAD', 'PWR CH1' through 'PWR CH8', 'UART1' through 'UART4', 'CAN1', 'CAN2', 'SMB', 'I2C', 'SPI', 'PPS', 'GPS', 'GPS2', 'GPS3', 'GPS4', 'GPS5', 'GPS6', 'GPS7', 'GPS8', 'GPS9', 'GPS10', 'GPS11', 'GPS12', 'GPS13', 'GPS14', 'GPS15', 'GPS16', 'GPS17', 'GPS18', 'GPS19', 'GPS20', 'GPS21', 'GPS22', 'GPS23', 'GPS24', 'GPS25', 'GPS26', 'GPS27', 'GPS28', 'GPS29', 'GPS30', 'GPS31', 'GPS32', 'GPS33', 'GPS34', 'GPS35', 'GPS36', 'GPS37', 'GPS38', 'GPS39', 'GPS40', 'GPS41', 'GPS42', 'GPS43', 'GPS44', 'GPS45', 'GPS46', 'GPS47', 'GPS48', 'GPS49', 'GPS50', 'GPS51', 'GPS52', 'GPS53', 'GPS54', 'GPS55', 'GPS56', 'GPS57', 'GPS58', 'GPS59', 'GPS60', 'GPS61', 'GPS62', 'GPS63', 'GPS64', 'GPS65', 'GPS66', 'GPS67', 'GPS68', 'GPS69', 'GPS70', 'GPS71', 'GPS72', 'GPS73', 'GPS74', 'GPS75', 'GPS76', 'GPS77', 'GPS78', 'GPS79', 'GPS80', 'GPS81', 'GPS82', 'GPS83', 'GPS84', 'GPS85', 'GPS86', 'GPS87', 'GPS88', 'GPS89', 'GPS90', 'GPS91', 'GPS92', 'GPS93', 'GPS94', 'GPS95', 'GPS96', 'GPS97', 'GPS98', 'GPS99', 'GPS100'. A white label '3.3VAD' is placed over the bottom left corner.

SRC Module: A black PCB with a red daughterboard. The daughterboard has a white label 'SRC'. The main PCB has labels 'SRC', 'PWR CH1' through 'PWR CH8', 'UART1' through 'UART4', 'CAN1', 'CAN2', 'SMB', 'I2C', 'SPI', 'PPS', 'GPS', 'GPS2', 'GPS3', 'GPS4', 'GPS5', 'GPS6', 'GPS7', 'GPS8', 'GPS9', 'GPS10', 'GPS11', 'GPS12', 'GPS13', 'GPS14', 'GPS15', 'GPS16', 'GPS17', 'GPS18', 'GPS19', 'GPS20', 'GPS21', 'GPS22', 'GPS23', 'GPS24', 'GPS25', 'GPS26', 'GPS27', 'GPS28', 'GPS29', 'GPS30', 'GPS31', 'GPS32', 'GPS33', 'GPS34', 'GPS35', 'GPS36', 'GPS37', 'GPS38', 'GPS39', 'GPS40', 'GPS41', 'GPS42', 'GPS43', 'GPS44', 'GPS45', 'GPS46', 'GPS47', 'GPS48', 'GPS49', 'GPS50', 'GPS51', 'GPS52', 'GPS53', 'GPS54', 'GPS55', 'GPS56', 'GPS57', 'GPS58', 'GPS59', 'GPS60', 'GPS61', 'GPS62', 'GPS63', 'GPS64', 'GPS65', 'GPS66', 'GPS67', 'GPS68', 'GPS69', 'GPS70', 'GPS71', 'GPS72', 'GPS73', 'GPS74', 'GPS75', 'GPS76', 'GPS77', 'GPS78', 'GPS79', 'GPS80', 'GPS81', 'GPS82', 'GPS83', 'GPS84', 'GPS85', 'GPS86', 'GPS87', 'GPS88', 'GPS89', 'GPS90', 'GPS91', 'GPS92', 'GPS93', 'GPS94', 'GPS95', 'GPS96', 'GPS97', 'GPS98', 'GPS99', 'GPS100'. A white label 'SRC' is placed over the top right corner.

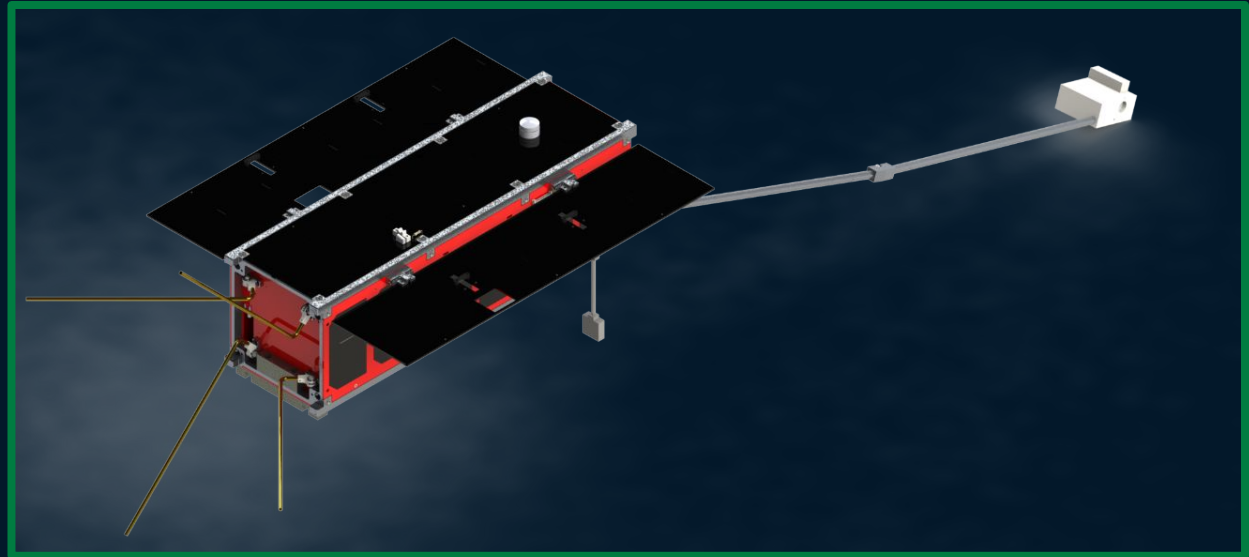
Partial Module: A black PCB with a green daughterboard. The daughterboard has a white label 'SRC'. The main PCB has labels 'SRC', 'PWR CH1' through 'PWR CH8', 'UART1' through 'UART4', 'CAN1', 'CAN2', 'SMB', 'I2C', 'SPI', 'PPS', 'GPS', 'GPS2', 'GPS3', 'GPS4', 'GPS5', 'GPS6', 'GPS7', 'GPS8', 'GPS9', 'GPS10', 'GPS11', 'GPS12', 'GPS13', 'GPS14', 'GPS15', 'GPS16', 'GPS17', 'GPS18', 'GPS19', 'GPS20', 'GPS21', 'GPS22', 'GPS23', 'GPS24', 'GPS25', 'GPS26', 'GPS27', 'GPS28', 'GPS29', 'GPS30', 'GPS31', 'GPS32', 'GPS33', 'GPS34', 'GPS35', 'GPS36', 'GPS37', 'GPS38', 'GPS39', 'GPS40', 'GPS41', 'GPS42', 'GPS43', 'GPS44', 'GPS45', 'GPS46', 'GPS47', 'GPS48', 'GPS49', 'GPS50', 'GPS51', 'GPS52', 'GPS53', 'GPS54', 'GPS55', 'GPS56', 'GPS57', 'GPS58', 'GPS59', 'GPS60', 'GPS61', 'GPS62', 'GPS63', 'GPS64', 'GPS65', 'GPS66', 'GPS67', 'GPS68', 'GPS69', 'GPS70', 'GPS71', 'GPS72', 'GPS73', 'GPS74', 'GPS75', 'GPS76', 'GPS77', 'GPS78', 'GPS79', 'GPS80', 'GPS81', 'GPS82', 'GPS83', 'GPS84', 'GPS85', 'GPS86', 'GPS87', 'GPS88', 'GPS89', 'GPS90', 'GPS91', 'GPS92', 'GPS93', 'GPS94', 'GPS95', 'GPS96', 'GPS97', 'GPS98', 'GPS99', 'GPS100'. A white label 'SRC' is placed over the top right corner.

The inside of the satellite

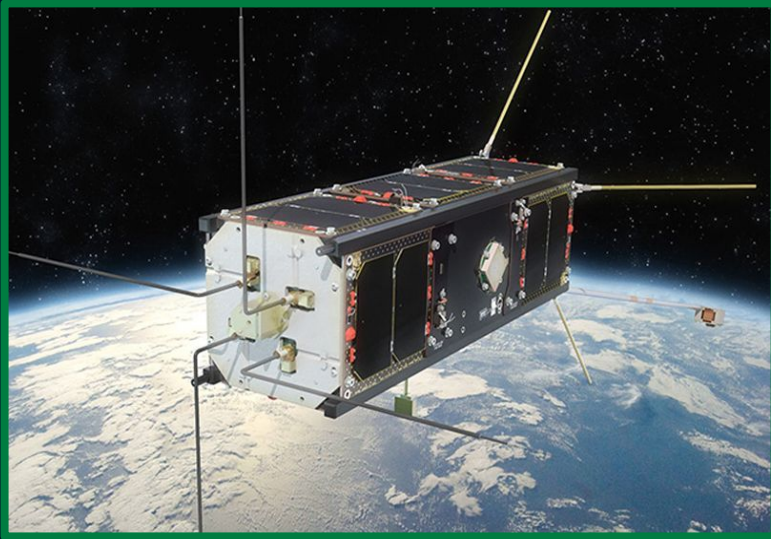


Ex-Alta 2: the wildfire camera

The scientific purpose of Ex-Alta 2 is to track and assess wildfires, and to predict the behaviour of future wildfires.



Ex-Altas 1: the space weather satellite



The scientific purpose of Ex-Altas 1 was to monitor space weather.



We are a student group who builds satellites

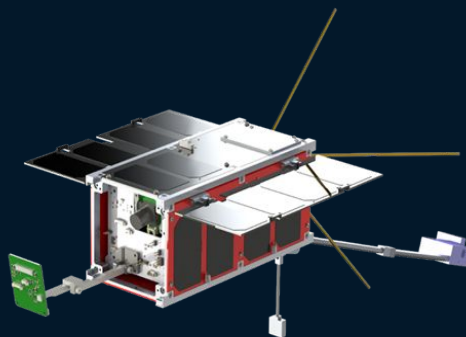
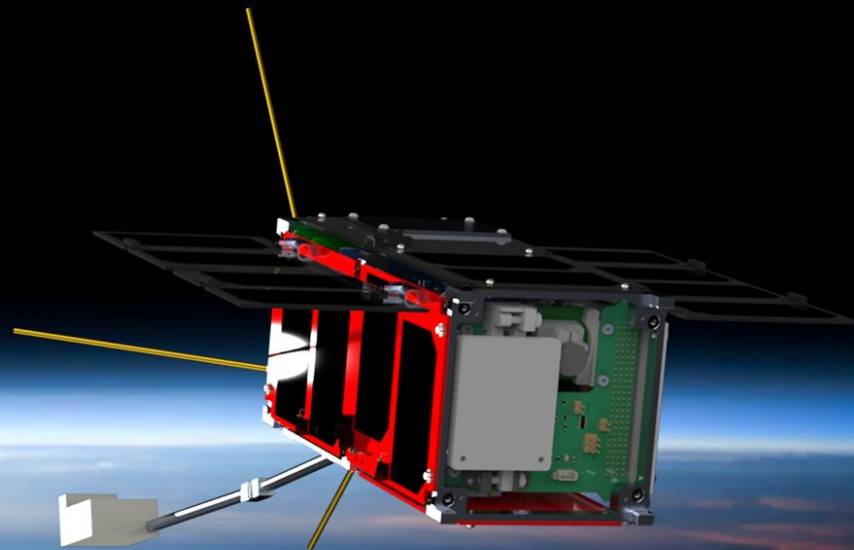
Ex-Alta 1







AuroraSat



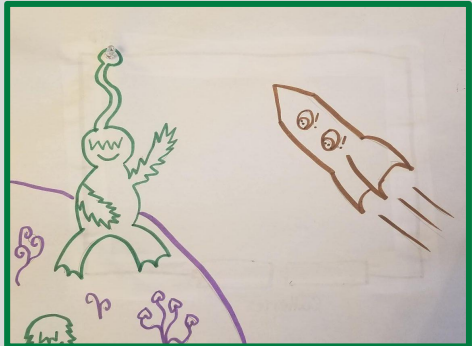
Now, imagine you are designing satellite art that has been commissioned by the Canadian Space Agency. You will create a **drawing** that incorporates an LED which can **light up!**

ACTIVITY

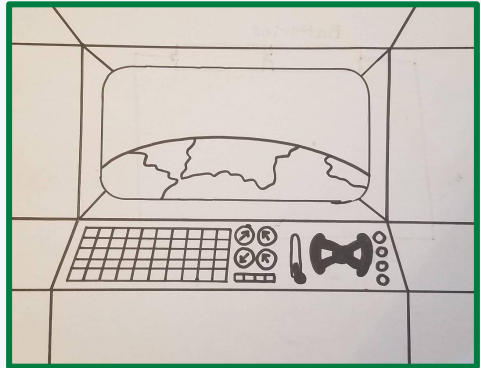


Step 1: Make your plan

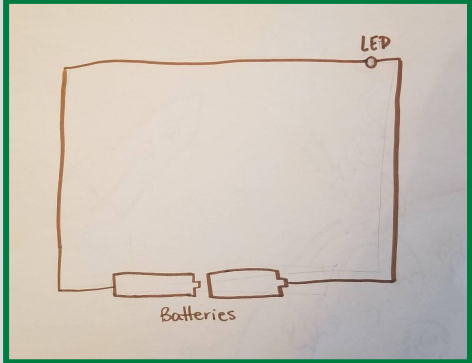
FRONT



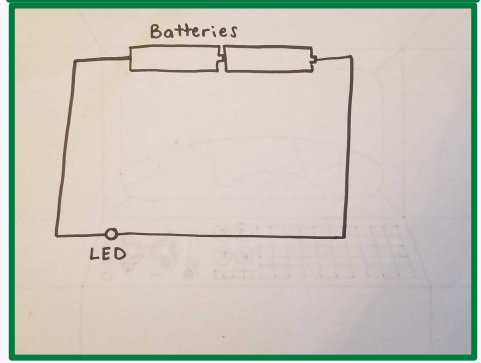
FRONT



BACK

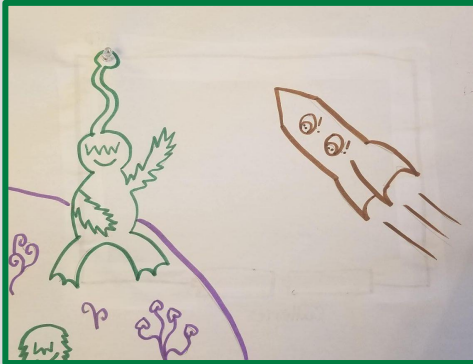


BACK

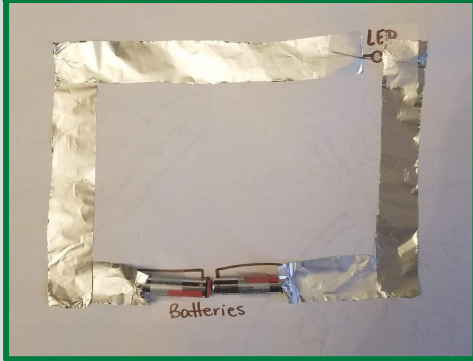


Step 2: Make your PCB

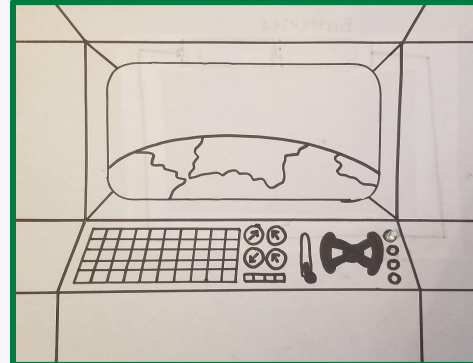
FRONT



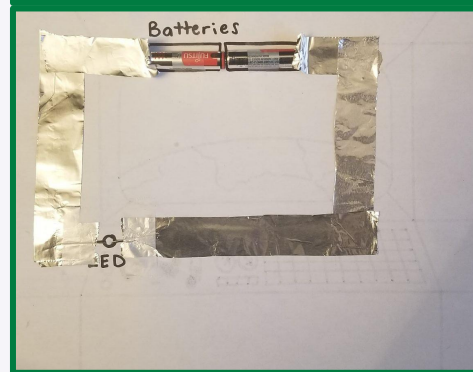
BACK



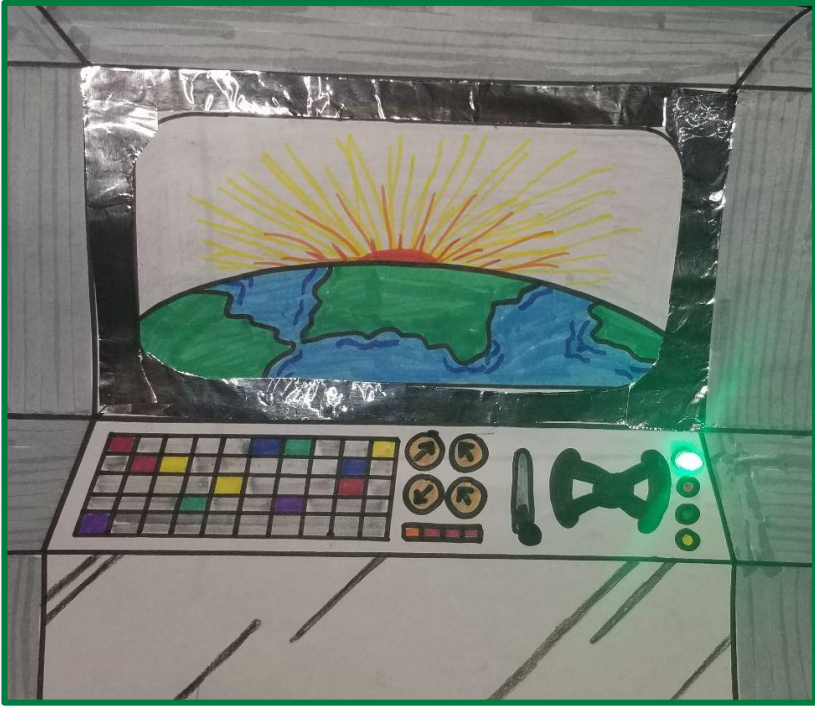
FRONT



BACK

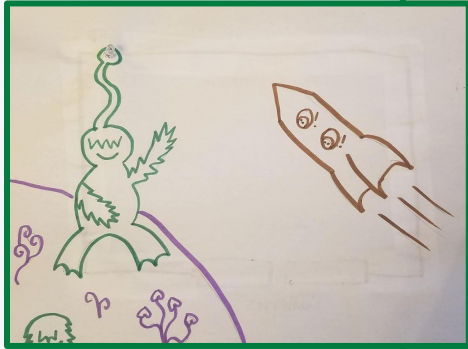


Step 3: Finish your artwork

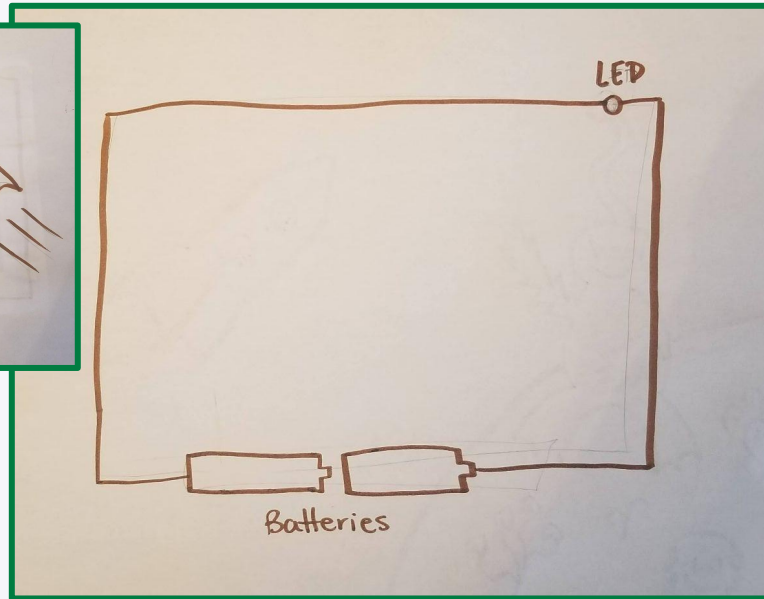


Step 1: Make your plan

FRONT



BACK



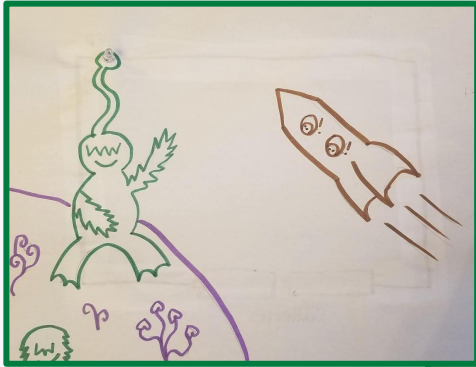
Design a continuous path for the electrons to travel along.

Include a spot for **2 batteries**, and a spot for the **LED**.

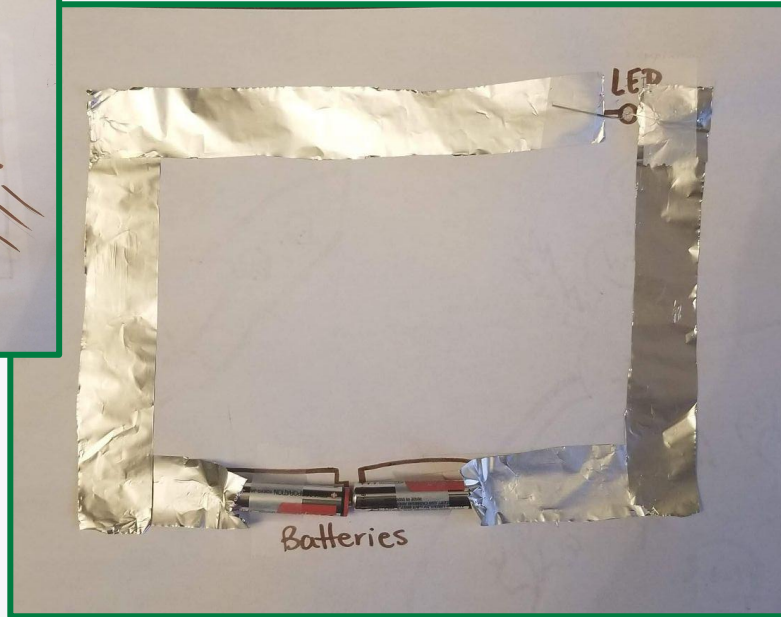


Step 2: Make your PCB

FRONT



BACK

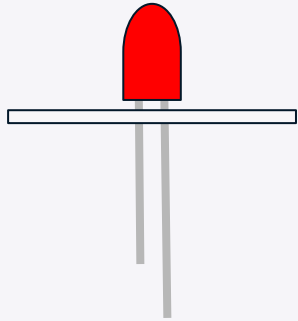


Glue the aluminum foil along the plan you've made.

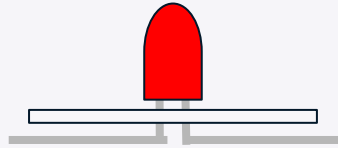
Leave a spot for the **batteries**, and the **LED**.



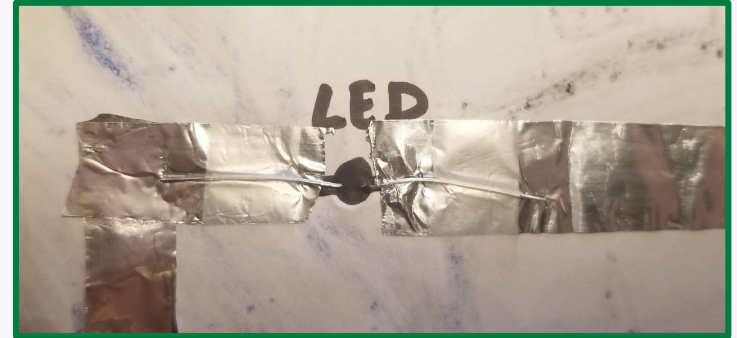
Attaching the LED



Punch the LED
through the
paper



Fold the leads
back and tape in
place



It should look like
this when you're
done!



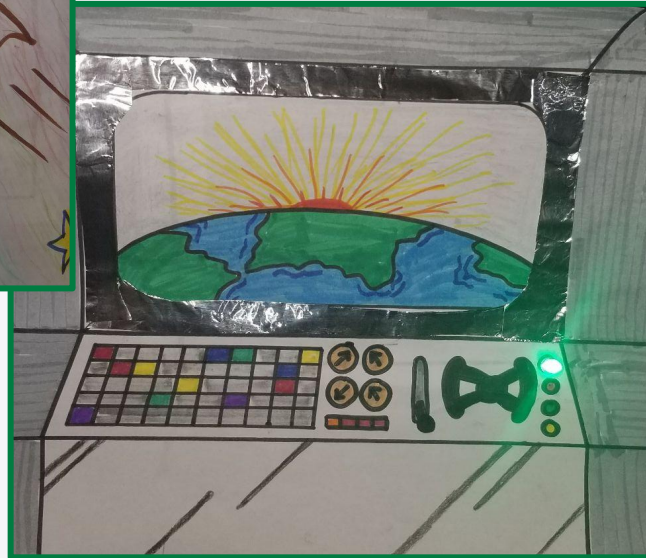
Attaching the batteries



The batteries have to be the same direction.



Step 3: Finish your artwork



Now you can go back and **finish colouring** in your artwork!



The logo for AlbertaSat features a stylized satellite or orbital path. It consists of two white elliptical orbits that intersect at two points. A thick green line is superimposed over these orbits, forming a shape that resembles the letter 'A'.

AlbertaSat

