

# KISHOGE SATELIGHTS

CANSAT 2018

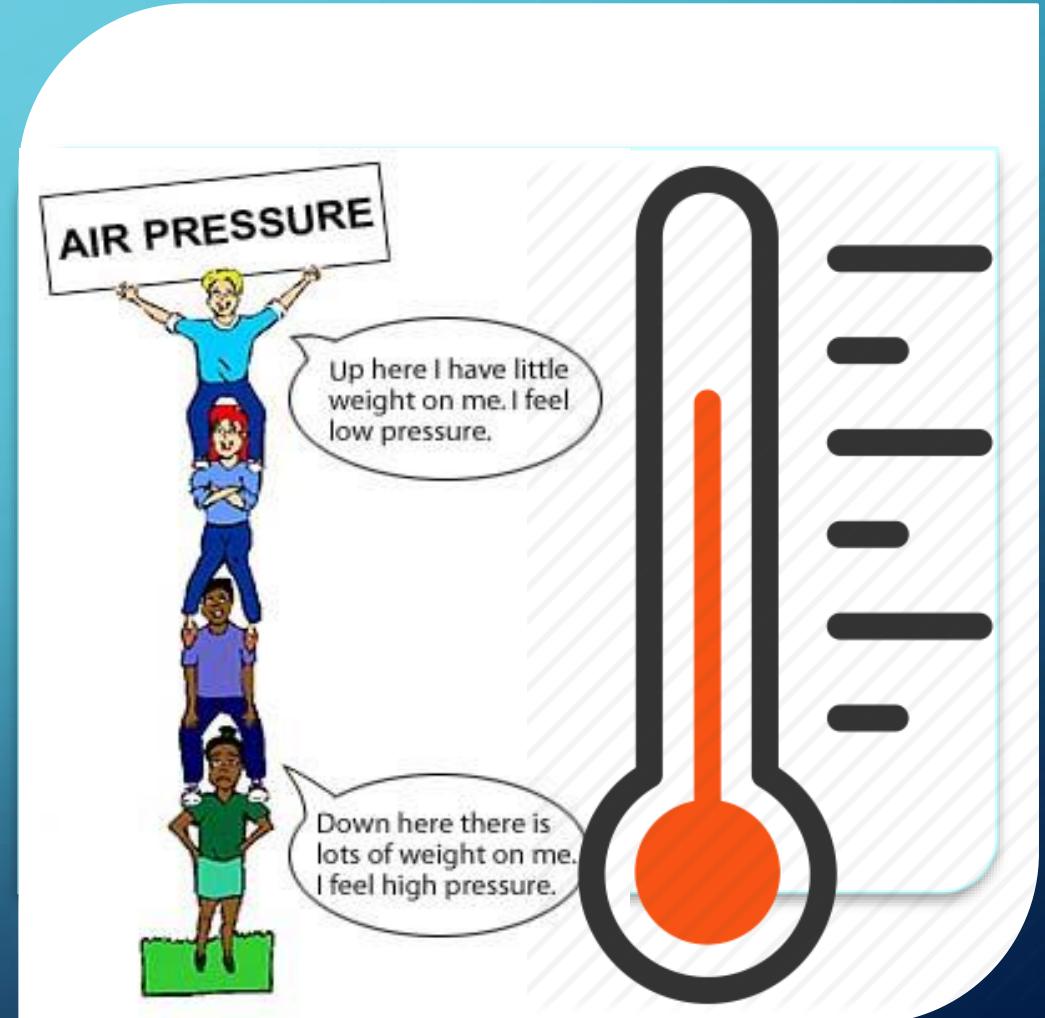


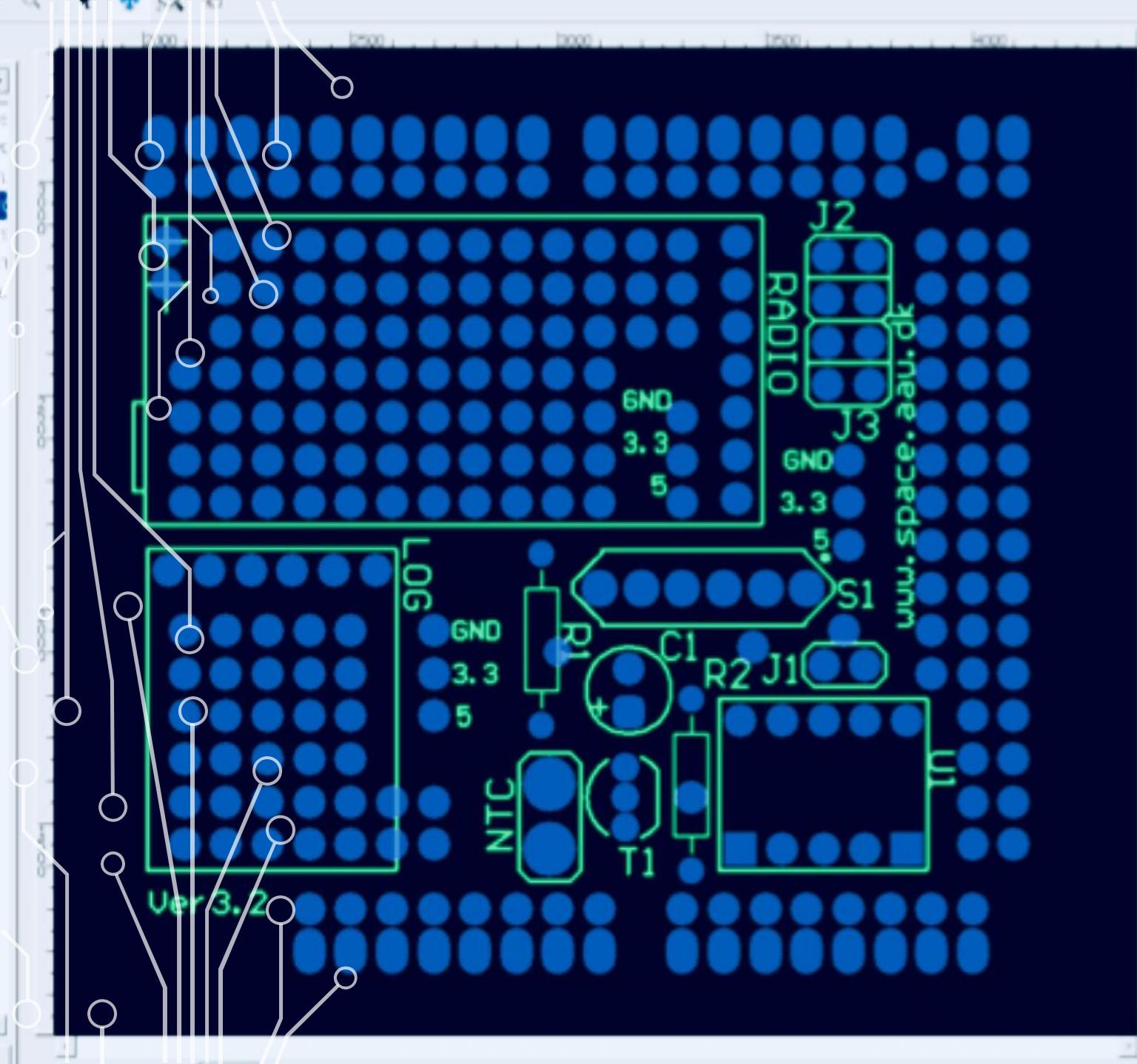
# THE TEAM

- Jordan- Main coder
- Oscar- Calculations
- Eryn- Parachute Designer
- Isabel- Outreach and Communication manager
- Liyana- Social media manager

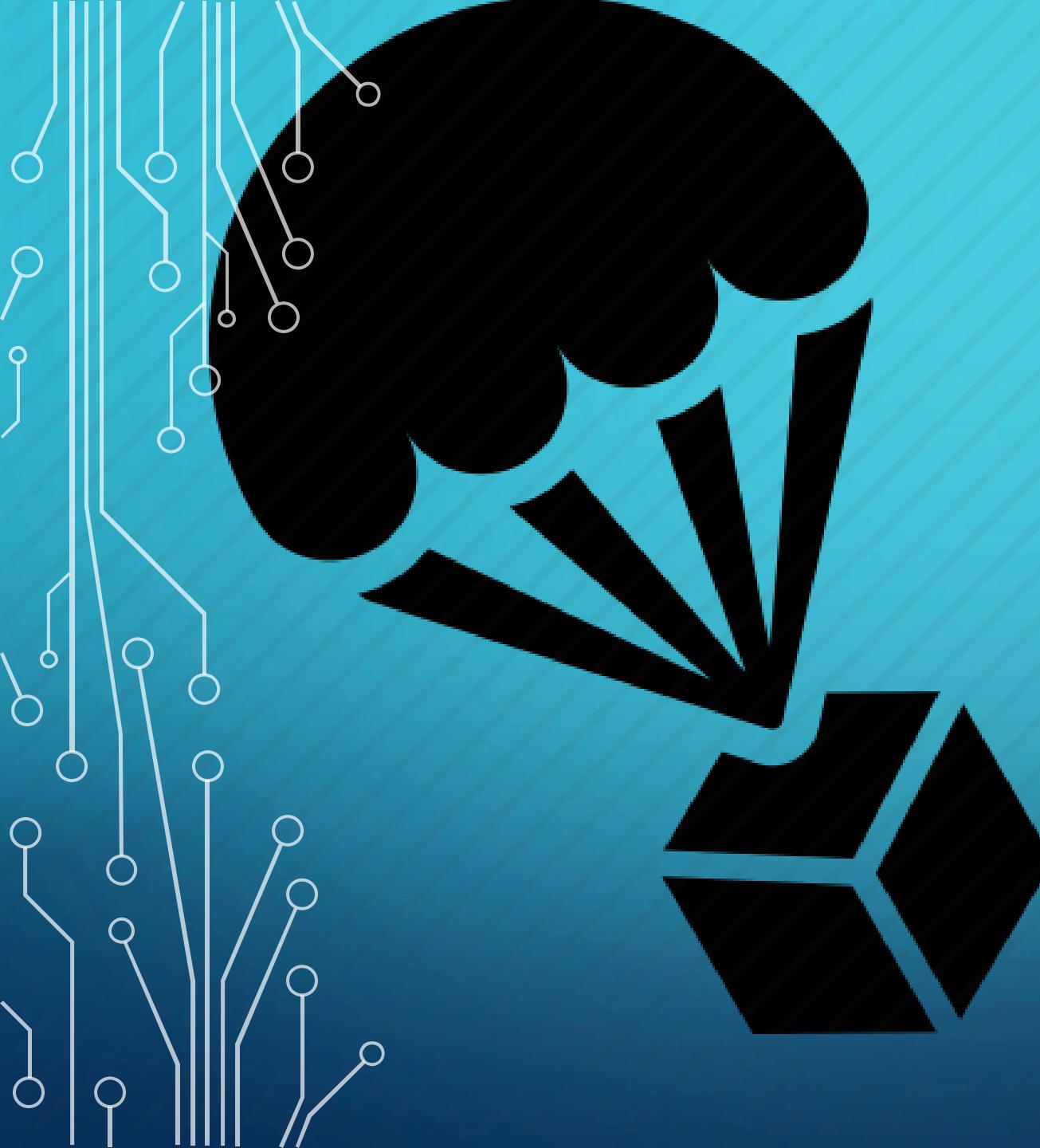
# PRIMARY MISSION

- Temperature
- Pressure





# PUTTING THE SENSORS INTO THE PCB



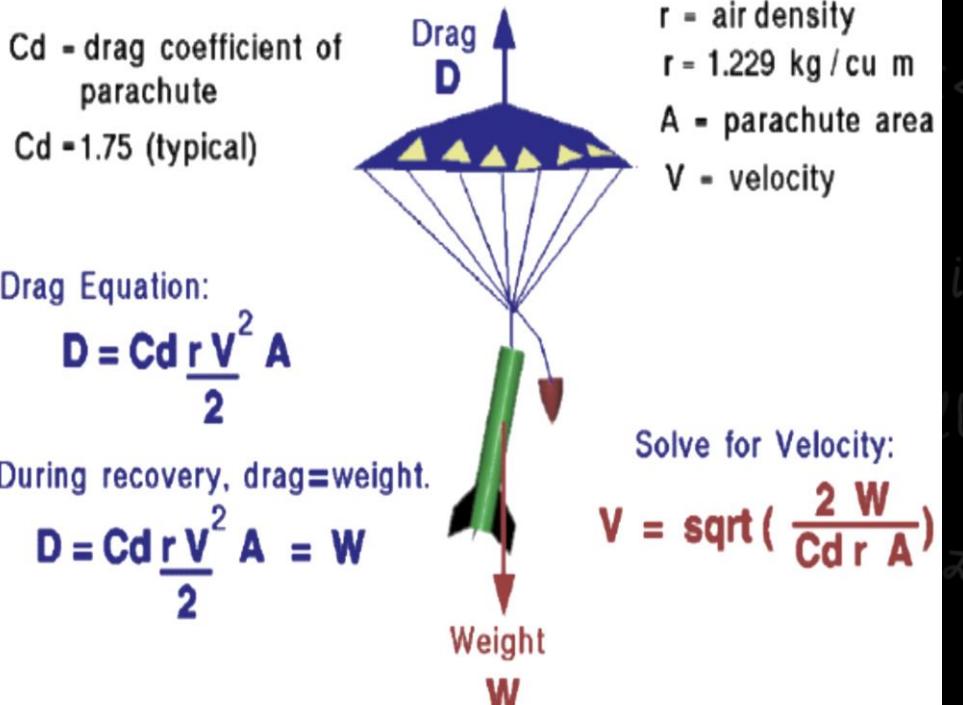
# PARACHUTES

TERMINAL VELOCITY  
WAS IMPACTED BY:

- Area of material
- Drag Coefficient
- Shape of parachute
- Mass of the can
- Presence of wind
- Density of air

# PARACHUTES CONTINUED

- 2 Prototypes built for different weather conditions
- Different ropes and knots were used for maximum strength and stability.
- Various knots were researched and tested such the bowline knot.
- Different material was tested and used.



# PARACHUTES CONTINUED

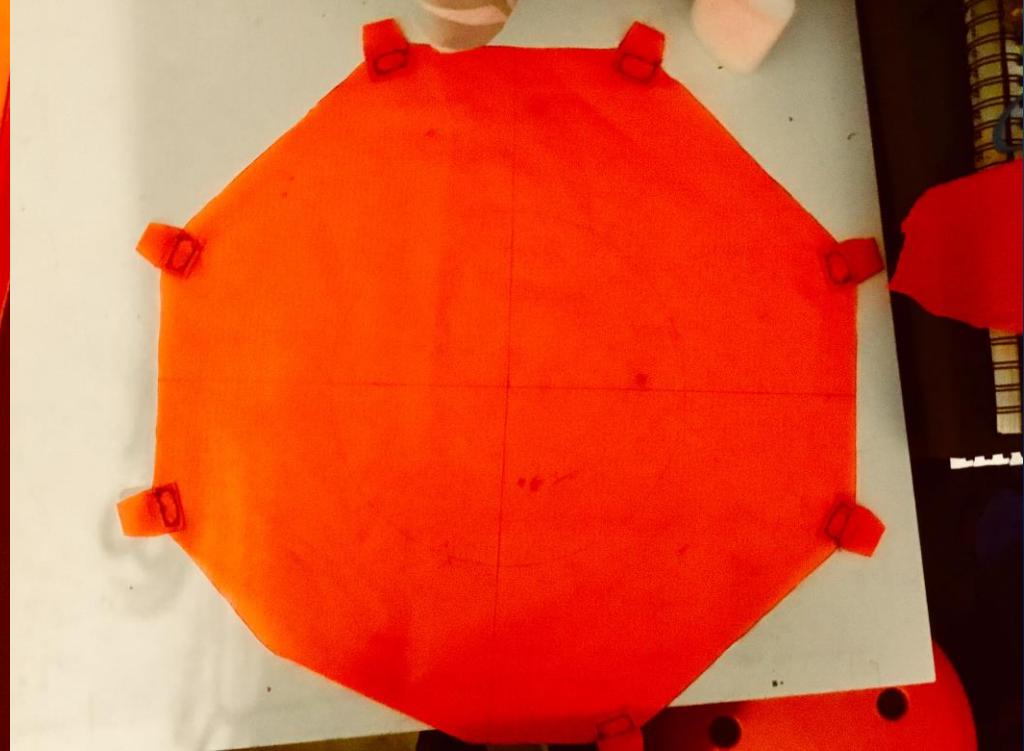
- We knew this number was to low so we based our first parachute off the dimensions from the parachute of an older CanSat team.
- For our second parachute we made it slightly larger so what a choice of parachutes for different wind conditions. We used our larger/smaller parachute as I was windy/windless on the day.

To work out what size the parachute we needed we used this formula:

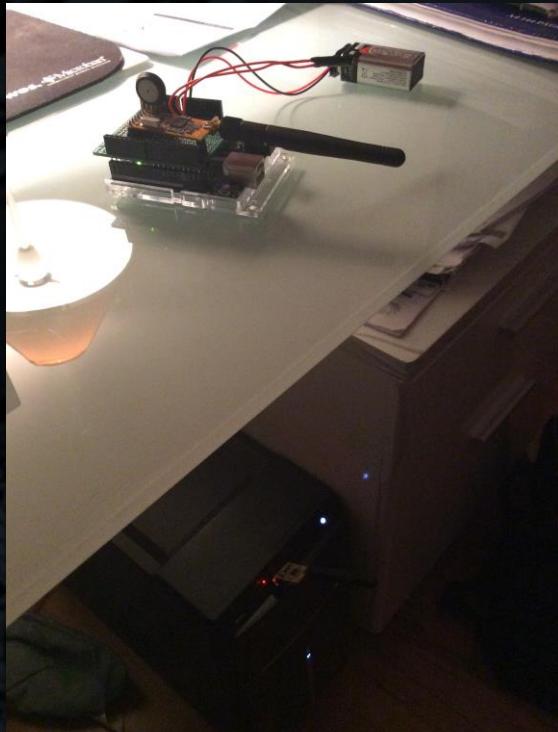
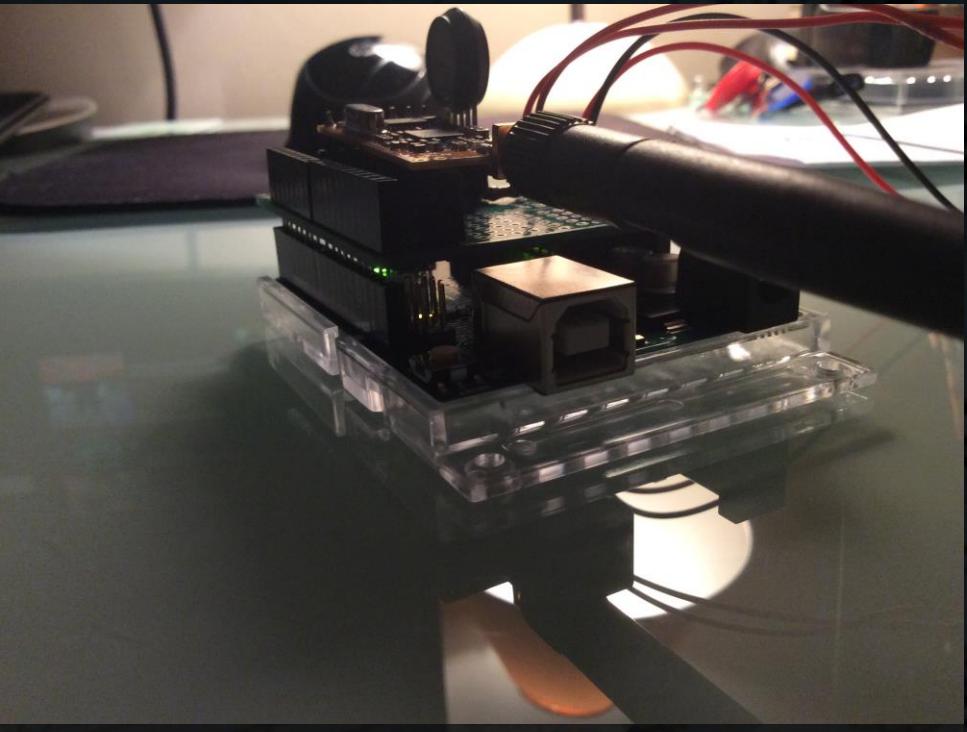
$$A = \frac{mg}{0.5 C_w \rho V^2}$$

at terminal velocity

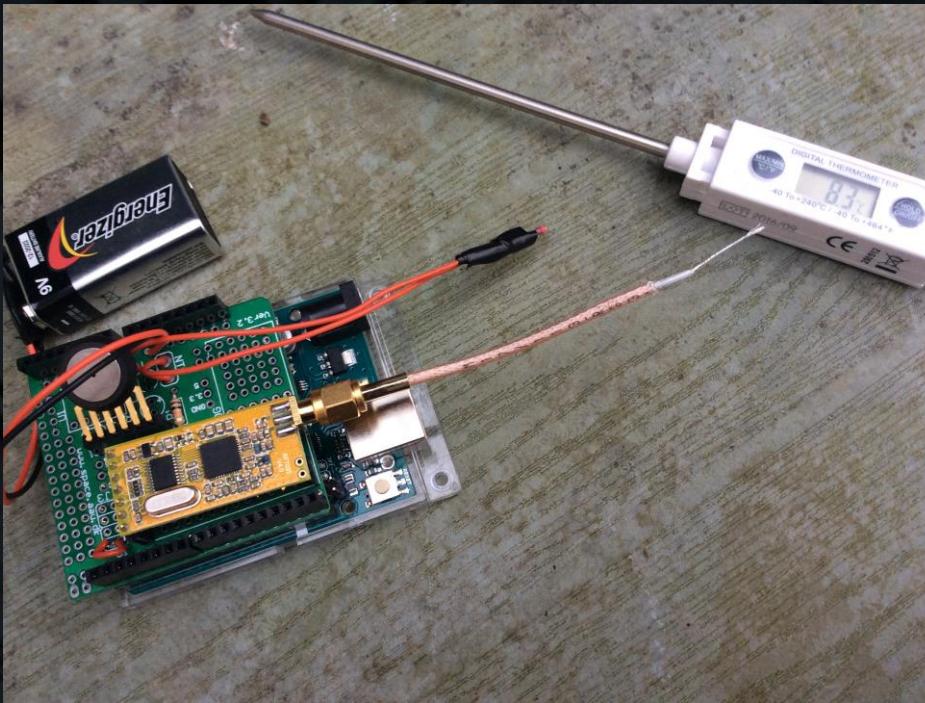
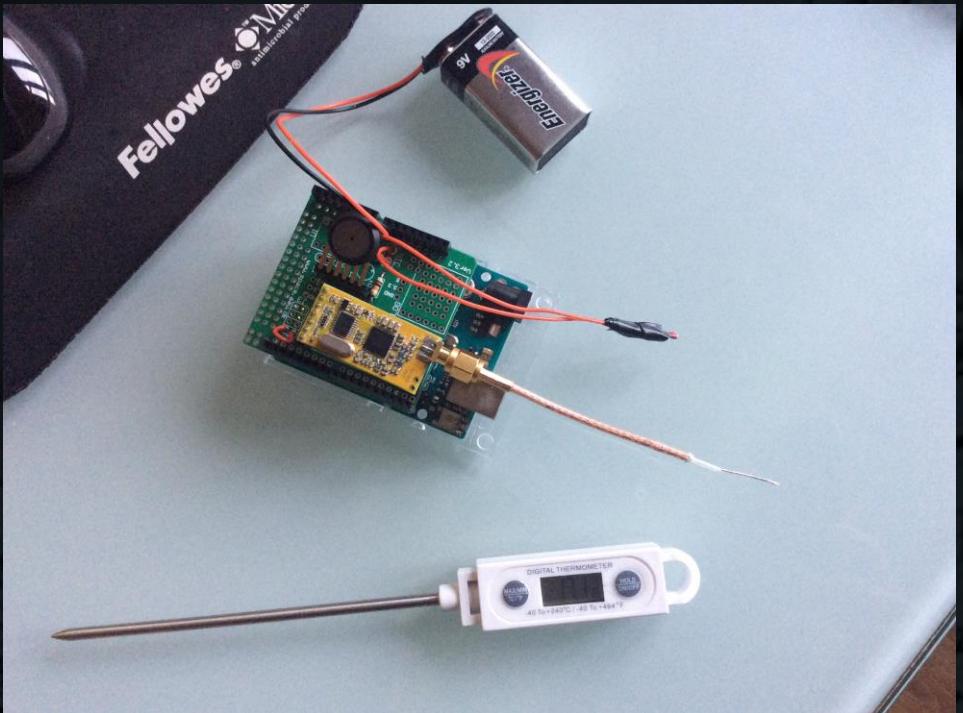
# PARACHUTES CONTINUED



# TEMPERATURE SENSOR CALIBRATION



# TEMPERATURE SENSOR CALIBRATION



# TEMPERATURE SENSOR CALIBRATION



## TECHNICALITIES

- When we first started with the Arduino, we were not receiving data over terminal and so we had to re-install the drivers.
- There was also a problem with the first pressure sensor and we had to replace it.
- We built a simple programme for one way communication.

## CAN CONSTRUCTION

- The can is made from polycarbonate
- The thermistor is outside the can
- The barometer is inside the can
- The duck bill was removed from the antenna for flexibility





# SOCIAL MEDIA

We have put our foot out on social media with:

- Instagram
- Pinterest
- Facebook
- Twitter

# OUTREACH



We had intended to visit schools about to talk about CanSat but sadly, our plans were disrupted by the recent snowfall.

We reached out to many potential sponsors as well as newspapers, but as of now we have received no responses.

# DATA ANALYSIS

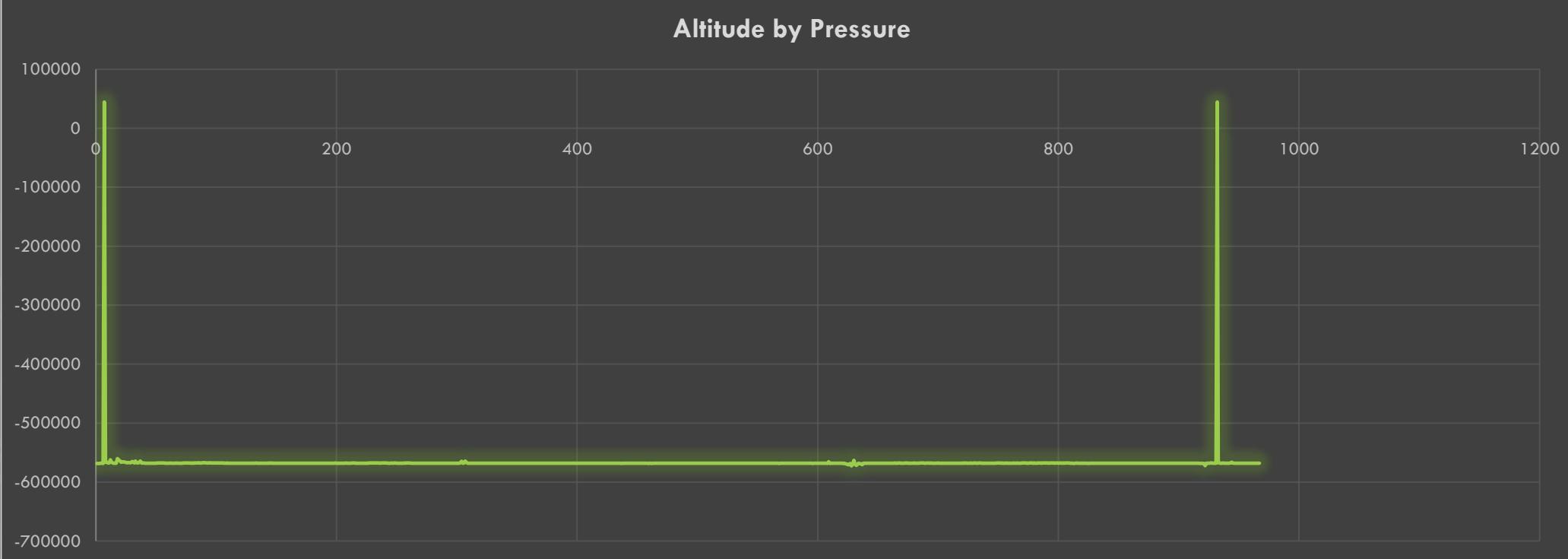
Graph of Temperature (C) Over Time



# DATA ANALYSIS



# DATA ANALYSIS



# WHAT WE LEARNED...

- ✓ HOW TO COMMUNICATE IN TEAMS
- ✓ HOW TO ALLOCATE TASKS IN TEAMS
- ✓ HOW TO `BETTER PROJECT MANAGE

# THANK YOU

