PROJECT #2 PROPOSAL

NAME(S): GOSI, ABDULLAH

PROJECT: HIGH ALTITUDE BALLOON

PART A: BRAINSTORMING...

- DESCRIBE YOUR PROJECT IDEA(S)

WE DECIDED TO CONTINUE THE WEATHER BALLOON PROJECT THAT WAS LEFT UNFINISHED FROM LAST YEAR

- LIST YOUR LEARNING OBJECTIVES

  - ➢ 3-D PRINTING

    - ☐ BECOME MORE SKILLED WITH THE DESIGN AND PRINTING OF OBJECTS .

      - ▪ MVHS LOGO

  - ➢ CODING

    - ☐ LEARN THE NEW CODING LANGUAGE FOR THE RASPBERRY PI SENSEHAT. (FOUND AN ONLINE DEMO THAT PORTRAYS HOW THE SENSEHAT SHOULD REACT IN REAL LIFE.)

    - ☐ LEARN MORE ON HOW TO UPLOAD CODE. (SO THAT WE DO NOT RUN INTO PROBLEMS SUCH AS THE ONES WE RAN INTO WITH THE ARDUINO.)

  - ➢ ARDUINO UNO

    - ☐ LEARN MORE OF HOW MUCH THE ARDUINO CAN HANDLE IN THE SENSE OF UPLOADING CODE AND POWER.

    - ☐ LEARN HOW TO CODE THE ARDUINO OR MAKE SIMPLE CODE ON OUR OWN.

  - ➢ WIRELESS COMMUNICATION—GPRS SHIELD

    - ☐ LEARN HOW THE GPRS SHIELD WORKS.

      - ▪ HOW IT SENDS THE INFORMATION AS A LIVE FEED TO AN ACCESSIBLE SITE.

      - ▪ LEARN THE SORT OF CODE NEEDED FOR THE GPRS, IF ANY.

  - ➢ CUSTOMIZATION OF BALLOON PARTS

    - ☐ REINFORCEMENTS FOR THE BASE IF NEEDED.

☐ **CORRECT MEASUREMENTS REGARDING DISTANCE FROM BALLOON TO BASE.**

- **STATE THE GOAL(S) OF YOUR PROJECT**

THE GOAL OF THIS PROJECT IS TO SUCCESSFULLY LAUNCH AND RETRIEVE THE WEATHER BALLOON AFTER COLLECTING DATA FROM THE ATMOSPHERE.
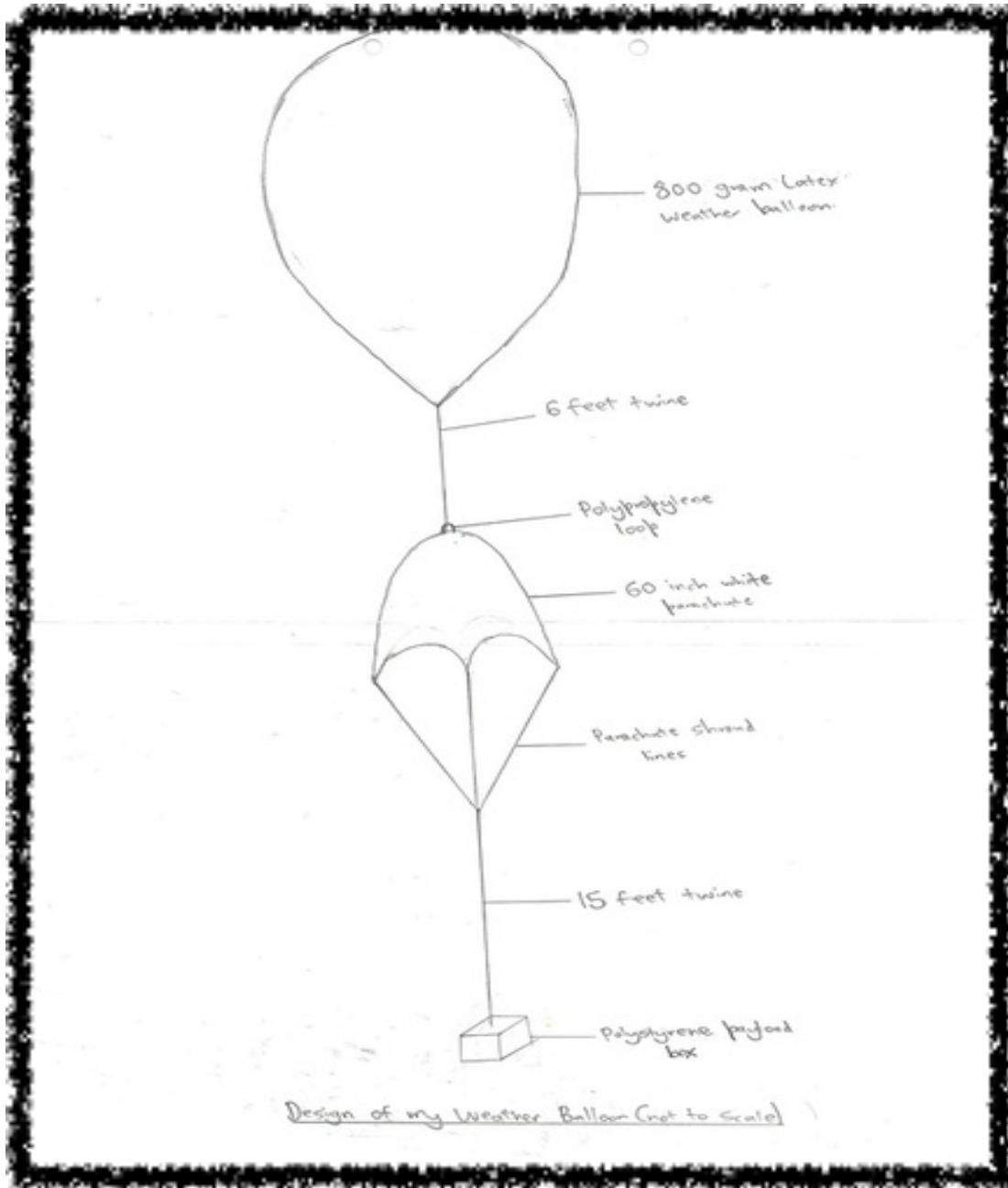
PART B: ELECTRONIC RESOURCES…LIST ACTIVE HYPERLINKS TO ANY RELEVANT ONLINE RESOURCES

- ➢ HTTPS://PROJECTS.RASPBERRYPI.ORG/EN/PROJECTS/GETTING-STARTED-WITH-THE-SENSE-HAT/2

- ➢ HTTPS://WWW.YOUTUBE.COM/WATCH?V=ZT7FZWHTBL8

- ➢ HTTPS://WWW.ADAFRUIT.COM/PRODUCT/2738

- ➢ HTTPS://PYTHONHOSTED.ORG/SENSE-HAT/API/

- ➢ HTTPS://PIMYLIFEUP.COM/RASPBERRY-PI-WEATHER-STATION/

- ➢ HTTPS://THEPI.IO/HOW-TO-SET-UP-A-RASPBERRY-PI-WEATHER-STATION-USING-THE-SENSE-HAT/

- ➢ HTTP://WWW.INSTRUCTABLES.COM/ID/BUILD-A-RASPBERRY-PI-SUPER-WEATHER-STATION/

- ➢ HTTPS://TRINKET.IO/SENSE-HAT
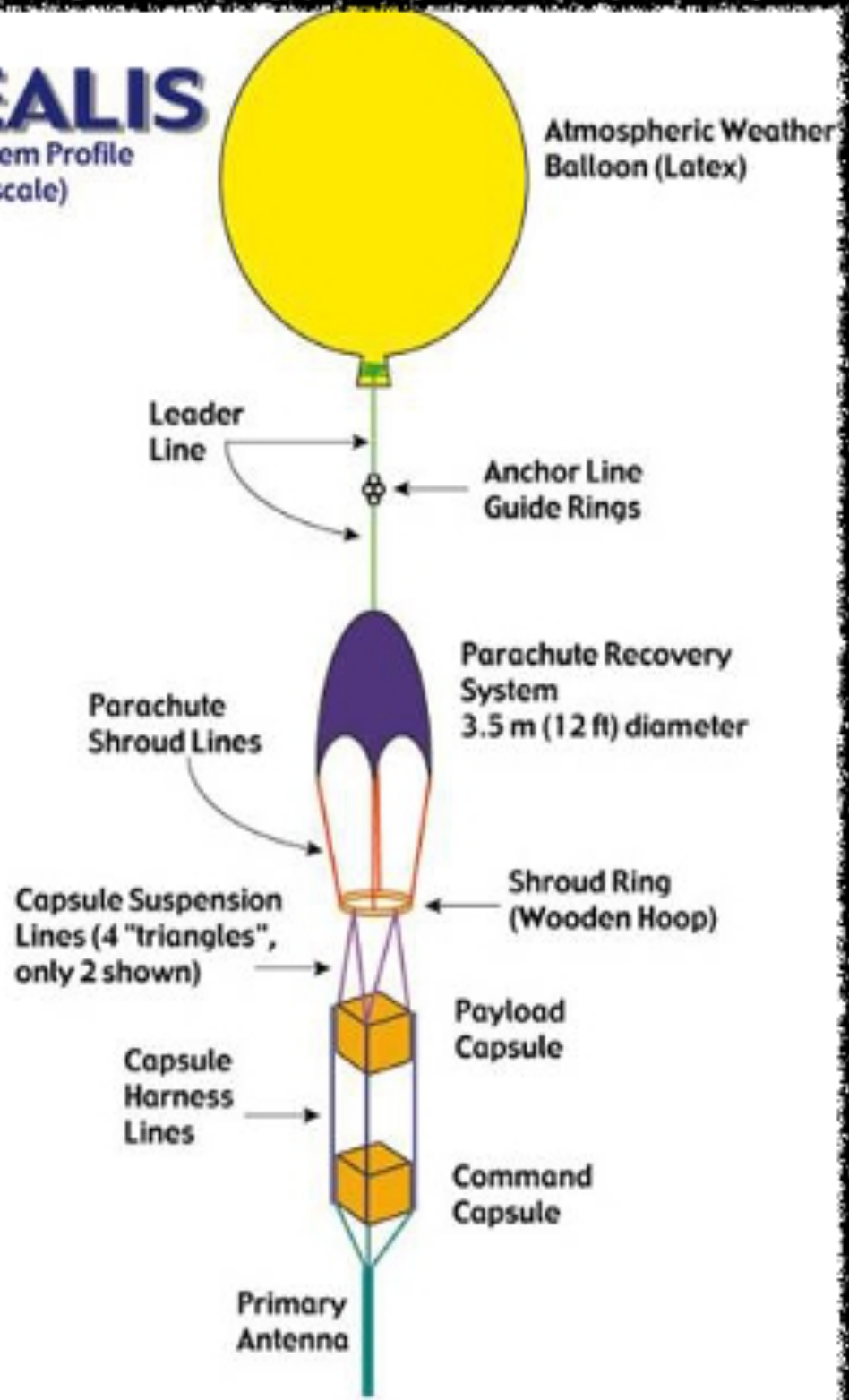
PART C: PLANNING…

- **MATERIALS LIST [NOTE: IF WE DO NOT HAVE IT, INCLUDE LINK TO PURCHASE FROM AMAZON.CA]**

- ➢ **REFER TO THE BLISS CARMAN MISSION PROTOCOL**

- ➢ **GPRS WIRELESS MODULE**

- ➢ **SENSEHAT MODULE**

- ➢ **ARDUINO UNO**

- **DESIGNS…INCLUDE ANY SKETCHES/PICTURES AND/OR LINKS TO VIDEOS**

800 gram Latex Weather balloon.

6 feet twine

Polypropylene loop

60 inch white parachute

Parachute shroud lines

15 feet twine

Polystyrene payload box

Design of my Weather Balloon (not to Scale)

BOREALIS

Balloon System Profile
(not to scale)

Atmospheric Weather
Balloon (Latex)

Leader
Line

Anchor Line
Guide Rings

Parachute
Shroud Lines

Parachute Recovery
System
3.5 m (12 ft) diameter

Capsule Suspension
Lines (4 "triangles",
only 2 shown)

Shroud Ring
(Wooden Hoop)

Payload
Capsule

Capsule
Harness
Lines

Command
Capsule

Primary
Antenna