

Explorer Post 632: BalloonSat

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Building 302

- **Rest rooms:** front Hall, first & second floor
- **Emergency Exit:**
 - 911 from office phones,
 - (216)433-8888 from cell phone
 - If possible, leave front of building
 - Get UPWIND
 - **Poison gas may be in use in some laboratories**
- **Break room: 208**
 - Snacks available
 - ~\$1 snack and pop
 - **Cost is low**
 - Please don't abuse the privilege
- **This is a Work Place, not a playground**
 - Unless told otherwise: **DO NOT TOUCH!!**



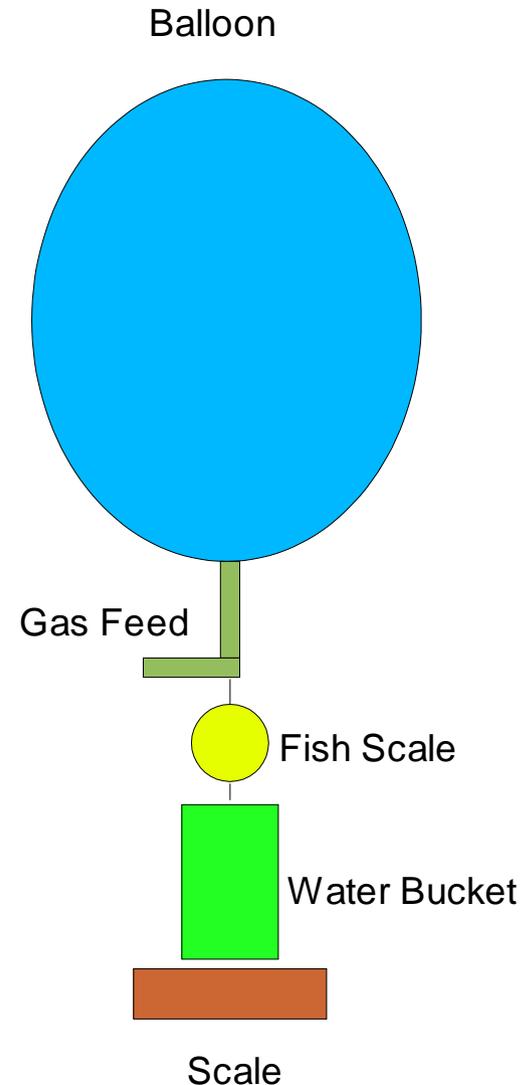
Balloon Lift

- Balloon lift Determines:
 - Payload Capacity
 - **More lift, more payload**
 - **Need ~2.5 kg**
 - Rise Rate
 - **More lift, faster rise rate**
 - **1.2 kg lift, ~1000 ft/min, 100 min rise time**
 - Maximum Altitude
 - **For 1500gr Balloon to reach 105 kft**
 - **Lift 3.8 kg**



Balloon Inflation

- Calculate total lift
 - Payload + FreeLift
- Subtract
 - Gas feed (180 gr)
 - Fish Scale (135 gr)
- Fill Water bucket with water to this weight.
- Inflate Balloon till bucket is lifted from ground + *add a little more.*



Balloon Inflation

- Do not touch balloon with bare hands.
 - Only those with latex gloves may touch balloon.
 - Use *BIG HANS* to control balloon.
- Be careful not to release balloon.
- When balloon is filled
 - Tie neck w string
 - Fold neck
 - Tie and tape



Wind Release



Calm Release

- Slowly raise balloon
 - Foot – by - foot
 - Payload – by – Payload
- Hang onto last payload
- Release after countdown



Project for next week

- Find a weather forecast for Tiffin, OH for next Saturday morning (Oct 21).
 - TV, radio, newspaper
 - <http://www.weather.com>
 - <http://www.weatherunderground.com>
- We would like as much information as we can get – cloud cover, temperature, winds, etc.

