Approach this homework as a way to capture your individual ideas for a BalloonSat before working with your team. Bring your answers and thoughts to your first team meeting to share.

Please answer the following questions - (limit answers to 1-4 sentences, only general answers required).

1. What kind of science/engineering mission would you be interested in doing at an altitude of 30 km inside a 20 cm box that can hold 800 grams?

2. What would you expect/hope to discover with said mission?

3. Write a one sentence mission statement for questions 1 and 2 above.

4. What type of sensors would you need?

5. How much would they cost?

6. How would you record/store your data?

7. What materials would you use to construct your experiment structure?

8. How much power would your sensors require?

9. How would you control/automate your experiment?

10. How could you keep your experiment safe from condensation?

11. How could you keep your experiment warm?

12. What would be the biggest hurdle in completing your mission by November 15, 2014?

13. What is SparkFun?

14. What is an Arduino Uno?

15. What is a capacitor?
16. What is a resistor?

17. What is a diode?

18. What is transistor?

19. What is a voltage regulator?


21. **Skim, DO NOT READ**, Chapter 8 of Paul Verhage’s *Near Space* book downloaded from the class website. Use this as an additional source for BalloonSat ideas. Read as much as you want on any idea you find of interest.