**Challenge:** Create an airfoil that can lift the most weight. The more weight your airfoil lifts, the more Leader Board points you earn!

**Project Requirements:**

**Airfoil (65%):** Use materials in class to design an airfoil to maximize lift. You will be assessed on:

* Completion of a working airfoil
* Neatness and attractiveness of airfoil
* Deliberate and creative design
* Creative use of materials
* Effective use of classroom time

**Reflection (35%):** Write a reflection on the design and creation process. This must be legible and you must use good grammar and spelling to answer the prompts thoroughly.

* Tell me about at least one positive thing that happened with this project and how that may have affected your project.
* Tell me about one problem that you faced, how that may have affected your project, and what you did to overcome it.
* Describe your airfoil and why you designed it the way you did.
* Explain Bernoulli’s Principle and Newton’s Laws and how they contribute to life and making airplanes fly.
* Looking back, what is at least one thing you could have done to improve on this project?
* What is something Ms. Belton could have done to help you with this project or a material you wish you had to help you complete the project?

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| **Name:** | | | | |
| **CATEGORY** | **4** | **3** | **2** | **1** |
| **Airfoil**  **(65%)**  **Score: \_\_\_\_** | * Your completed an airfoil * Airfoil works and can lift weight * Airfoil is very neat and attractive. You took time and clearly put good work into building it. * There is much creative and deliberate thought behind the design of your airfoil. * You used classroom materials and time very effectively to creatively construct your airfoil. * Overall, awesome job. | * Your airfoil is about 75% done * Airfoil sort of works but doesn’t really lift weight * Airfoil is neat and attractive. You took time and put some good work into building it. * There is some creative and deliberate thought behind the design of your airfoil. * You used classroom materials and time fairly effectively to creatively construct your airfoil. * Overall, pretty good job. | * Your airfoil is about 50% done * Airfoil is somewhat neat and attractive but you could have put a little more time into building it. * There is a little creative and deliberate thought behind the design of your airfoil. * You used classroom materials and time somewhat effectively to creatively construct your airfoil. * Overall, ok job. | * Your airfoil is about 25% done * Airfoil is not very attractive nor neat. * There is not much creative and deliberate thought behind the design of your airfoil. * You did not use classroom materials or time very effectively to creatively construct your airfoil. * What happened? |
| **Reflection (35%)**  **Score: \_\_\_\_** | * Answers all prompts * Answers all prompts thoroughly * Answers all prompts in complete sentences * Responses show metacognition and are reflective in nature * Contains no grammatical or spelling errors | * Answers 4-5 prompts * Answers 4-5 of the prompts thoroughly * Answers 4-5 prompts in complete sentences * Most (>75%) responses show metacognition and are reflective in nature * Contains few distracting grammatical or spelling errors | * Answers 2-3 prompts * Answers 2-3 prompts thoroughly * Answers 2-3 prompts in complete sentences * Some (>50%) responses show metacognition and are reflective in nature * Contains some distracting grammatical or spelling errors | * Answers 1 prompt * Answers 1 prompt thoroughly * Answers 1 prompt in complete sentences * Few (<50%) responses show metacognition or are reflective in nature * Contains many distracting grammatical or spelling errors |