**Rubric created by Kurt Lichtenwald and John Barry, Gloucester High School**

Inspired By: Mark Miller, Gloucester High School

S.T.E.A.M. (Science, Technology, Engineering, Arts and Mathematics)

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| **Musical Instrument Evaluation Rubric** |
|  The 2 sections below are weighted heavier than the other criteria.  | **Excellent****(20 -15 points)**  | **Good****(14 - 10 points)**  | **Fair****(9 – 6 points)**  | **Undeveloped****(5 - 3 points)**  | **Non-Compliance****(2– 0 points)**  | **Grade Received****(N/A)**  |
| **Engineering Design** | Project is **elegant**, and a **complete** system.**All** components work well together.**All** components are **professionally** incorporated.  | Project is a **complete** system.**All** components work together.**All** components look like they belong together and are incorporated.  |  Project is **nearly** a **complete** system, but is missing **some** critical design components.**Most** components work well together.  | Project is **not** a **complete** system and lacks many critical design components.**Some** components work well together. | Project was **not finished** or no project was presented for evaluation. | **Grade Received** |
| **Creativity / Originality****Cosmetic/Aesthetic Quality of Product** | **Excellent** **(20 -15 points)**The student developed a product **aesthetically worthy of sale in its niche market place.** | **Good** **(14-10 points)**The student developed a product for **their own use aesthetically pleasing for themselves** and not for sale in its niche market place. | **Fair**  **(9-6 points)**The student made a **valid attempt to the finishing process** of the product. | **Undeveloped**  **(5-3 points)**The student gave **little attention to the finishing process** of the product but had minimum success. | **Non-Compliance** **(2-0 points)**The student gave **little to no attention to the finishing process** of the product. | **Grade Received**  |
| The 6 sections below are weighted less than the above criteria.  |  |  |  |  |  |  |
| **Demonstrate Knowledge and Application of The Engineering Design Process**  | **Excellent** **(10-8 points)**Student is able **to identify and given an****In-depth explanation** of the EDP in relation to their project. Student **relies on their own memory** skills to complete this task.  | **Good** **(7-5 points)**Student is able **to identify and given an adequate explanation** of the EDP in relation to their project. Student **relies on their own memory** skills to complete this task.  | **Fair** **(4-3 points)**Student is able **to identify and given a fair explanation (with minimal prompting**) of the EDP in relation to their project. Student **relies mostly on their own memory** skills to complete this task.  | **Undeveloped** **(2-1 points)****Student needs extensive prompting from teacher and / or** they need an **EDP cycle worksheet** to complete this task.  | **Non-Compliance** **(0 points)**Student **lacked interest** in demonstrating knowledge of EDP cycle and / or project.  | **Grade Received**  |
| **Time Management** /**Student Preparedness** | **Excellent** **(10-8 points)**Student gathered **all** materials and began production in a timely manner. **Always** demonstrated excellent time-management throughout the project to meet due dates.  | **Good** **(7-5 points)**Student gathered **most** materials and began production in a timely manner. **Consistently** demonstrated time-management throughout the project to meet due dates.  | **Fair** **(4-3 points)**Student gathered **most** materials and began production in a timely manner. **Inconsistently** demonstrated time-management throughout the project to meet due dates. | **Undeveloped** **(2-1 points)**Student **did not** gather needed materials to perform work. Was **unable to adequately meet** timeline due to inability.  | **Non-Compliance** **(0 points)**Student **refused to gather** materials required to complete the project. Student **showed no interest** in completing project on time.  | **Grade Received**  |
| **Application of Safety Practices**   | **Excellent** **(10-8 points)** Student followed **all** safety rules and **always** demonstrated proper tool usage. | **Good** **(7-5 points)**Student followed **all** safety rules and demonstrated proper tool usage **most of the time.** | **Fair** **(4-3 points)**Student followed **most of the** safety rules and **always** demonstrated proper tool usage. | **Undeveloped** **(2-1 points)**Student followed **most of the** safety rules and **inconsistently** demonstrated proper tool usage. | **Non-Compliance** **(0 points)**Student **did not** followed safety rules, nor demonstrated proper tool usage. | **Grade Received**  |
| **Component Placement Design** | **Excellent** **(10-8 points)**The project demonstrates well-thought out design for access to **all** of its components to allow for modifications and repairs. | **Good** **(7-5 points)**The project allows access to most of its components, thus allowing for **some** modifications and repairs. | **Fair** **(4-3 points)**The project allows access to some of its components, thus allowing for **minimal** modifications and repairs. | **Undeveloped** **(2-1 points)**The project **does not** allow access to its components for modifications and repairs. | **Non-Compliance** **(0 points)**Project was **not finished** or no project was presented for evaluation. | **Grade Received**  |
| **Homemade vs. Store - Bought build** | **Excellent** **(10-8 points)**The student alters an existing products function **into a new desired function**, cross-application of an existing product, and fabrication; or a new product.  | **Good** **(7-5 points)**The student applied both **fabricated and prefabricated** materials that served the desired purpose. | **Fair** **(4-3 points)**The student demonstrated knowledge of course material and used a **majority of prefabricated materials**. | **Undeveloped** **(2-1 points)**Materials were **not suitable** for desired outcome. | **Non-Compliance** **(0 points)**Project was **not finished** or no project was presented for evaluation. | **Grade Received**  |
| **Material Choice**  | **Excellent** **(10-8 points)**Recycled material and material that will last a **minimum of 5 years** of **heavy use.** | **Good** **(7-5 points)**Recycled material and material will likely last **less than 5 years** of **heavy use**.  | **Fair** **(4-3 points)**Recycled material and material will likely last **less than 5 years of sporadic use.** | **Undeveloped** **(2-1 points)**Recycled material and material will likely last **less than 5 years of minimal use.** | **Non-Compliance** **(0 points)****No material was gathered.** | **Grade Received**  |
| **Above and Beyond** **Points**Extra Credit - Bonus  | **Excellent**  **(10-8 points)**Student **exceeds rubric requirement** for project and **helps others** with the development of peer’s projects.  | **Good** **(7-5 points)**Student does **more than the required rubric** for project.  | **Fair** **(4-3 points)**Student **attempted to do more** than the required project.  | **Undeveloped** N/A | **Non-Compliance** N/A | **Grade Received**  |

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 **TOTAL GRADE FOR PROJECT:**

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