**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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