**Transformation Complex Machine**

Standards: MCC8.G1 – G4

Essential Question: How are geometric transformations essential to the working of a complex machine?

I Can: I can identify geometric transformations in a complex machine.

Overview: Complex machines such as a car, computer or even a toaster rely on geometric transformations in order to work. Your job is to investigate a complex machine of your choice to determine how geometric transformations are used in the operation of the machine. You will present your findings using PowerPoint, a video or other presentation program of your choice.

Instructions:

1. Choose a complex machine to investigate. Using the internet, the actual machine, experts and others sources determine all geometric transformations used in the working of the machine. (Be sure to reference all your sources.)
2. Determine **HOW** these transformations are used in the working of the machine.
3. Would the machine still work if one of transformations stopped working (or was removed from the machine)?
4. Create a presentation of your findings.

Presentation

Your presentation should include

1. An picture of your machine
2. An explanation of how you researched/investigated your machine
3. Answers to the questions above

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|  | **Emerging** | **Proficient** | **Exemplary** |
| **Information** | Little or no information. Lacks understanding of material. | Some information. Lacks clear understanding of information. | Information is clear and concise. Information is organized in a clear manner. |
| **Identification of transformations** | Little or no identification of transformations. | Identification of some transformations used in the machine. | Identification of all transformations used in the mach. |
| **Identification of use of transformations** | Little or no identification of use of transformations. | Some identification of the use of transformations. | Clear identification of the use of transformations. |
| **Understanding of importance of transformations** | Little or no understanding of the importance of transformations in the working of the machine. | Some understanding of the importance of transformations in the working of the machine. | Clear understanding of the importance of transformations in the working of the machine. |
| **Resources** | Little or no resources used and cited. | Some use of resources. | Deep use of resources to understand the machine. |
| **Presentation** | Presentation design uses little or transitions, effects, and color. Presentation is of poor quality. | Presentation design uses some transitions, effects, and color. Presentation is of average quality. | Presentation design uses transitions, effects, and color. Presentation is of high quality. |