**Ratios Minor Project Rubric**

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| --- | --- | --- | --- | --- | --- |
|  | **Criteria** | | | | **Value** |
|  | | | | | |
|  | **1** | **2** | **3** | **4** |  |
| **Problem Solving** | Answers no or few questions. | Answers some questions. | Answers all questions. | Answers all questions with additional insight. |  |
| **Math Content** | Demonstrates little or no knowledge or application of math skills. | Demonstrates a limited knowledge and application of math skills. | Demonstrates a general knowledge and application of math skills. | Demonstrates a clear knowledge and application of math skills. |  |
| **Communication** | Inaccurately communicated problems and concepts. | Limited communication of problems and concepts. | Satisfactorily communicates problems and concepts. | Accurately communicates problems and concepts. |  |
| **Presentation** | The reader is unable to follow the steps taken in the solution. | Solution is difficult follow at times. | Solution is presented in a logical manner. | Solution is presented in an easy follow step-by-step model. |  |
| **Project Overview** | Little to no effort shown towards research and chosen topic. | Some effort shown towards research and chosen topic. | Meets effort expectations for research and chosen topic. | Exceeds effort expectations for research and chosen topic. |  |
| **Use of Mathematical Terminology** | No mathematical terminology is used or attempted. | Some mathematical terminology is presented, but not correctly used. | Mathematical terminology is correctly used. | Mathematical terminology is prevalent and used correctly. |  |
| **Grammar** | Difficulty understanding project due to extensive grammatical errors. | 5 or more grammatical errors. | Few grammatical errors. | No grammatical errors. |  |
| **Citations** | No sources cited. |  |  | All sources correctly cited. |  |
|  |  |  |  | **Total =** |  |

**Teacher Comments:**

**Aspect Ratio Minor Project Overview**

**Goal:** The goal for this project is to help extend understanding of aspect ratios outside of the classroom. Why don’t we just use the same aspect ratio for everything?

**Project Choices:**

1. **Aspect ratios in photography**

* Helpful link **-** <http://www.boostyourphotography.com/2014/01/aspect-ratio.html>
* Compare the same picture (selfie or picture of something else) taken with different aspect ratios (ex. On an iPhone - photo, square, panorama, video, Instagram, pic-stitch, camera orientation, etc.). You can also use different camera lenses if you don’t want to use your phone.
* Why did you choose to take that specific picture?
* How does cropping impact your picture?

<https://helpx.adobe.com/premiere-pro/using/aspect-ratios.html>

* Why are aspect ratios important in photography?
* How does changing the aspect ratio after you’ve taken the photo affect the photo presentation?
* How else do aspect ratios play a role in photography? Why are we even interested in changing aspect ratios?

1. **Compare television or movie sizes through the years.**
   * What is the same? Describe in detail (don’t just list).
   * What has changed? Describe in detail (don’t just list).
   * What were some iconic moments with aspect ratio changes in TV/Movie History?
   * How else do aspect ratios play a role in television size and movies?
   * Why might we use different aspect ratios in televisions and movies? Why are we even interested in changing aspect ratios?

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1. **Research tire size and aspect ratios.**
   * Do dealerships use tire aspect ratios to sell cars?
   * Is there a recommended tire aspect ratio for different cars (ex. Sedan versus SUV versus Truck, etc.)?
   * Detail other important/interesting information about tires and aspect ratios.
   * Why might we use different tire aspect ratios? Why are we even interested in changing aspect ratios?
2. **Research and report on the Golden Ratio.**
   * What is it?
   * Why is it special?
   * Where does it show up?
   * Who discovered it?
   * Anything else?
3. **Aspect ratios in jewelry** 
   * Helpful links to get you started
     1. <http://theringlord.com/cart/shopcontent.asp?type=aspectratio>
     2. <http://www.facetjewelry.com/metal-wire/how-to/2017/03/how-to-control-the-fit-of-your-chain-mail-weave>
   * What is the purpose of the aspect ratio in making jewelry?
   * How is the aspect ratio useful?
   * When is the aspect ratio used in making jewelry (e.g. what types of jewerly is it used for)?
   * How long have we been using aspect ratios to make jewelry?
   * Detail other important/interesting information about jewelry and aspect ratios.
   * Why might we use different aspect ratios in jewelry? Why are we even interested in changing aspect ratios?
4. **Choose your own! (Must be teacher approved)**