

# Physics Photo Project

## INTRODUCTION

- The Physics Photo Project will be part of your spring semester grade. It will be comprised of original digital photographs from the major topics that you have studied this year: Optics, Waves, Electricity, Kinematics, Dynamics. Your photographs will be assembled into a portfolio on Google Slides.
- The Physics Photo Project requires you to photograph original compelling illustrations of physics phenomena that are covered in class. The goal is for you to realize the richness of the world outside the classroom with examples of what we study inside the classroom.
- You may work on this alone or with one other person. If you choose to have a partner, he or she can be enrolled in any of the five physics or honors physics classes.

## DETAILS

- Use the following checklist to ensure that your photos are meeting the expectations of the project. You may also check with me (and should do this) throughout the project to get my feedback.

Each photograph will be

- |   |  |
|---|--|
| <input type="checkbox"/> clearly focused                              | <input type="checkbox"/> properly exposed                              |
| <input type="checkbox"/> between 1.0 MB and 5.0 MB                    | <input type="checkbox"/> only about the physics idea being illustrated |
| <input type="checkbox"/> be taken from an ideal perspective           | <input type="checkbox"/> free of clutter and distractions              |
| <input type="checkbox"/> a compelling illustration of the phenomenon. |  |

- Getting a top score on a photo will require the photograph to be unique in some way (for example: a photo of something that few, if any, think to take, or a particularly striking photo of something that is more common).
- **Since the internet provides such easy access to high quality photos, you must have conclusive proof that you actually took each photograph. Therefore, you must also submit a second “proof” photo for each deadline that provides such evidence. Just take another picture, for example, that includes your own image and the physical phenomenon. Some photos are self-evident, but most need positive proof.**
- Each photograph must be uploaded to Google Slides, and shared with [dnash@tamdistrict.org](mailto:dnash@tamdistrict.org). Name the Google Slides File by your first and last name. Include both partners’ names if you decide to work in a group of two.

## DUE DATES (photos are due in several stages)

- **April 24: Portfolio progress check in** - Submit **two photos** on any **two topics** of study: Optics, Waves, Electricity, Kinematics, Dynamics. You can submit more than two if you want. Include a comment for each photo explaining in a sentence or two your photo topic. The comment must go in the Comment feature of Google Classroom for the assignment. **This deadline is worth 40 points – 20 per photo.**
- **May 29: Portfolio 1<sup>st</sup> draft** - Submit **two more photos** (two more than first deadline) on any **two new topics** of study: Optics, Waves, Electricity, Kinematics, Dynamics/Energy/Momentum. **No duplication of topics!** Include a Comment for each photo explaining in a sentence or two your photo topic. Previous photos can be improved and updated, or even replaced if you have a new and better idea. **This deadline is worth 40 points.**
- **June 5: Portfolio final draft** - Submit **one more photo** (one more than last deadline), so that your portfolio now has **one on each topic of study** (Optics, Waves, Electricity, Kinematics, Dynamics/Energy/Momentum).
  - Select your favorite photo for the first slide – a “cover” photo for your portfolio.
  - Write a paragraph or two about your “cover” photo explaining the physics of the topic. You can explain the photo qualitatively *and* quantitatively (there may be a relevant equation or proportion to be considered.)
  - Previous photos can be improved and updated, or even replaced if you have a new and better idea.
  - **This final deadline is worth 50 points - 20 for fifth photo and 30 for the cover photo and description.**

## GRADING RUBRIC

Your final “cover” photo will be graded in 4 categories for the photograph and two categories for the worded description. Each category will be graded on a 5-point rubric, for a total of 30 points as follows:

		5	4	3	2
<b>PHOTOGRAPH</b>	Theme	• photo displays an unmistakable physics phenomenon, and it is the central feature.	• photo displays a noticeable physics phenomenon, and it is the central feature.	• photo displays an observable physics phenomenon, but it is not the central feature.	• photo displays an obscure physics phenomenon, and it is not at all the central feature.
	Creativity	• photo is decidedly creative, showing entirely original thought.	• photo is rather creative, showing mostly original thought.	• photo is not very creative, but makes effort to enhance a common idea.	• photo is not at all creative, and a makes no effort to enhance a common idea.
	Perspective	• photo has an ideal photographer’s perspective, making it as compelling as possible.	• photo has a good photographer’s perspective, making it as fairly compelling.	• photo has a suitable photographer’s perspective, making it somewhat compelling.	• photo has an a poor photographer’s perspective, making it unconvincing.
	Qualities	• photo is taken with superior- quality exposure, contrast, sharpness, and focus.	• photo is taken with good-quality exposure, contrast, sharpness, and focus.	• photo is taken with fair-quality exposure, contrast, sharpness, and focus.	• photo is taken with poor-quality exposure, contrast, sharpness, and focus.
<b>DESCRIPTION</b>	Explanation	• the description thoroughly explains physics, using correct vocabulary as if it’s written for a high school textbook	• the description explains physics well, using correct vocabulary as if it’s written for a high school reader	• the description explains physics, sometimes using correct vocabulary as but sometimes the wording is confusing	• the description doesn’t explain the physics very well, often using incorrect vocabulary with confusing wording
	Vocabulary	• the description appeals to the reader, compelling them to learn about the topic, and it narrates the photograph flawlessly	• the description appeals to the reader, and it narrates the photograph well	• the description might appeal to the reader, but doesn’t narrate the photograph well	• the description doesn’t likely appeal to the reader, and doesn’t narrate the photograph well