Physics/Optics _____ **Instructor: Barton Clark.**

CREDO High School ***for your notes*** **Fall, 2026**

Mirrors, Reflection and the Speed of light ***Poster Project.***

Background: for the last week we have been exploring the 'laws of reflection' and how spherical mirrors can create both Real and Virtual images. We have considered both the 'lens equation' to calculate the focal length as well as using Ray Diagrams to illustrate the same. We have considered how the speed of light unifies both space and time. From these experiments and conversations, and using your best Waldorf Creative Skills, please construct an informational poster including the following topics.

Playful drawings that show you engaging with the five, experimental lab activities

- Experiments 1 & 2 can share a drawing, of you casting a projected image onto a screen opposite the candle that was giving off light.
- Experiment 3: in which you used your mirror to create a magnified a 'virtual image'.
- Experiment 4: in which we took our mirrors outside and measured directly, the focal length of the mirror (as you burned your way through piles of leaves and papers).

Technical drawings (called Ray Diagrams) that represent each of those same experiments, noting measured values for image distance, object distance. (These would be like the drawings Clark did on the board or found in Chapter 23 in the on-line text: Giancoli Physics)

Mathematics: Each of those drawing should include any relevant measurements (including Uncertainty) and mathematics. (i.e., determining the Focal Length from calculation). And within this section, a visual representation of the final, calculated values for f including the respective Uncertainties in those final calculations. *(think sideways Bar Chart)*.

A section describing/illustrating how the Speed of Light is 'fixed' for all observers and how Space and Time are connected to this speed. *(Space Time, is a thing! With properties!) This is a good place to include the Gravity Probe B experiment and how this confirmed one of Einsteins predictions!*

Grading Rubric for all lab based assignments.

Did you complete the assignment? All of the required steps? Did you go beyond?	5	4	3	2	1
How well did you communicate your ideas? Using words, pictures, diagrams?	5	4	3	2	1
Was your data/analysis accurate? Is the calculations/descriptions correct?	5	4	3	2	1
Were you creative in your writing? Drawings? Organization?	5	4	3	2	1
Does your final product/report/poster look clean, organized and professional?	5	4	3	2	1

5 = really impressive! One of the best in the class!

4 = good job (you get a pat on the back) .. like placing 4th at the track meet.

3 = you understood the directions but only did the minimum job to ‘check off the box’

2 = You did it.. but things were missing, the effort was poor..

1 = Well.. you did put a title on a piece of paper.