

Lab 9 Refraction, Diffraction and Interference

Objectives

In this lab, students will watch demonstration videos of some phenomena of light that they have learned in class and discuss the physics principles behind them.

Supplies

- [How a Prism Works to Make Rainbow Colors](https://youtu.be/JGqsi_LDUn0)
https://youtu.be/JGqsi_LDUn0
- [Laser Diffraction and Interference](https://youtu.be/9D8cPrEAGyc)
<https://youtu.be/9D8cPrEAGyc>

Procedure

Watch the videos using the links listed above and complete the worksheet below.

Questions

1. After watching the first video: How a Prism Works to Make Rainbow Colors, what do you think is required for refraction to happen? If you do not have a prism at hand, what else would you use to show refraction?

2. Based on what you observed in the first video, do different colors of light bend the same degrees when going through the prism? Which color bends the most and what color bends the least?

3. According to what you have learned in class (from the lecture), what are the main differences among different colors of light?

4. In the second video about diffraction and interference, if there are no small slits, instead, just a regular-sized hole or opening, how will light travel? In other words, what kind of path does light appear to follow?

5. At the end of the second video about diffraction and Interference, interferences of three different colors of light are shown on the same screen, do the different colors of light show the same range (width/size) of interference at each order (each bright region)? If no, which color has the smallest range (width)?

First and last name:

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