

A SPECTTRUM

LAB VIS 1

From Juniata College SIM.

INTRODUCTION

The spectrophotometer is designed to detect absorbances of light at different wavelengths when the light passes through a solution of some given concentration. Some compounds absorb more light at one wavelength than another, so the wavelength must be changed every time a different compound is being analyzed to achieve optimum results from a spectrophotometer. The wavelength of light is selected pushing the arrow down or up to the desired wavelength. In this lab, the color of light at each wavelength will be observed with the eye. The visible range of light is from 350 to 650 nm, so this will be the working range for this lab.

Note: The accepted symbol for wavelength is the Greek letter lambda (λ).

PURPOSE

To observe the color of light that corresponds to a variety of wavelengths by observing emissions of a spectrophotometer.

EQUIPMENT/MATERIALS

A piece of white paper cut to fit into the cell holder
Spectronic 20 Genesys

SAFETY

- Always wear an apron and goggles in the lab.

PROCEDURE

1. Remove the cell holder from the Spectronic 20 Genesys by firmly grasping the tab at the back of the cell holder. Pull it forward and up.
2. Place a piece of paper into the front of the cell holder chamber.
3. Set the wavelength to 350 nm.
4. Look down into the sample compartment and record on the data sheet the color of the light striking the white paper.
5. Repeat steps 3 and 4 increasing the wavelength by 25 nm until you reach 650 nm.

DATA SHEET

Name _____

Name _____

Period _____ Class _____

Date _____

A SPECTRUM

DATA TABLES

Wavelength (λ)	Observed color
350	
375	
400	
425	
450	
475	
500	

Wavelength (λ)	Observed color
525	
550	
575	
600	
625	
650	

QUESTIONS

1. Why was a white piece of paper used for this lab?

2. What would be an approximate wavelength of infrared light?

3. What would be an approximate wavelength of ultraviolet light?