

Name: _____ Date: _____ Period: _____

IB Physics SL Y2– Photoelectric Effect PhET Lab

Today, you will use the Photoelectric Effect PhET Lab to explore what happens when light interacts with matter. The photoelectric effect occurs when light strikes a surface and liberates electrons.

Beginning Observations – Open the Photoelectric Effect PhET Simulation.

****Before adjusting anything answer the questions below****

- 1) Before you begin, what do will happen to ...
 - a) the metal surface when light strikes it

 - b) the light the intensity slider is moved

2) Do you think all intensities of light will liberate electrons? Explain.

3) Do you think all wavelengths of light will liberate electrons? Explain.

Part 1 – Intro to Photoelectric Effect

1) What can you change in the simulation?

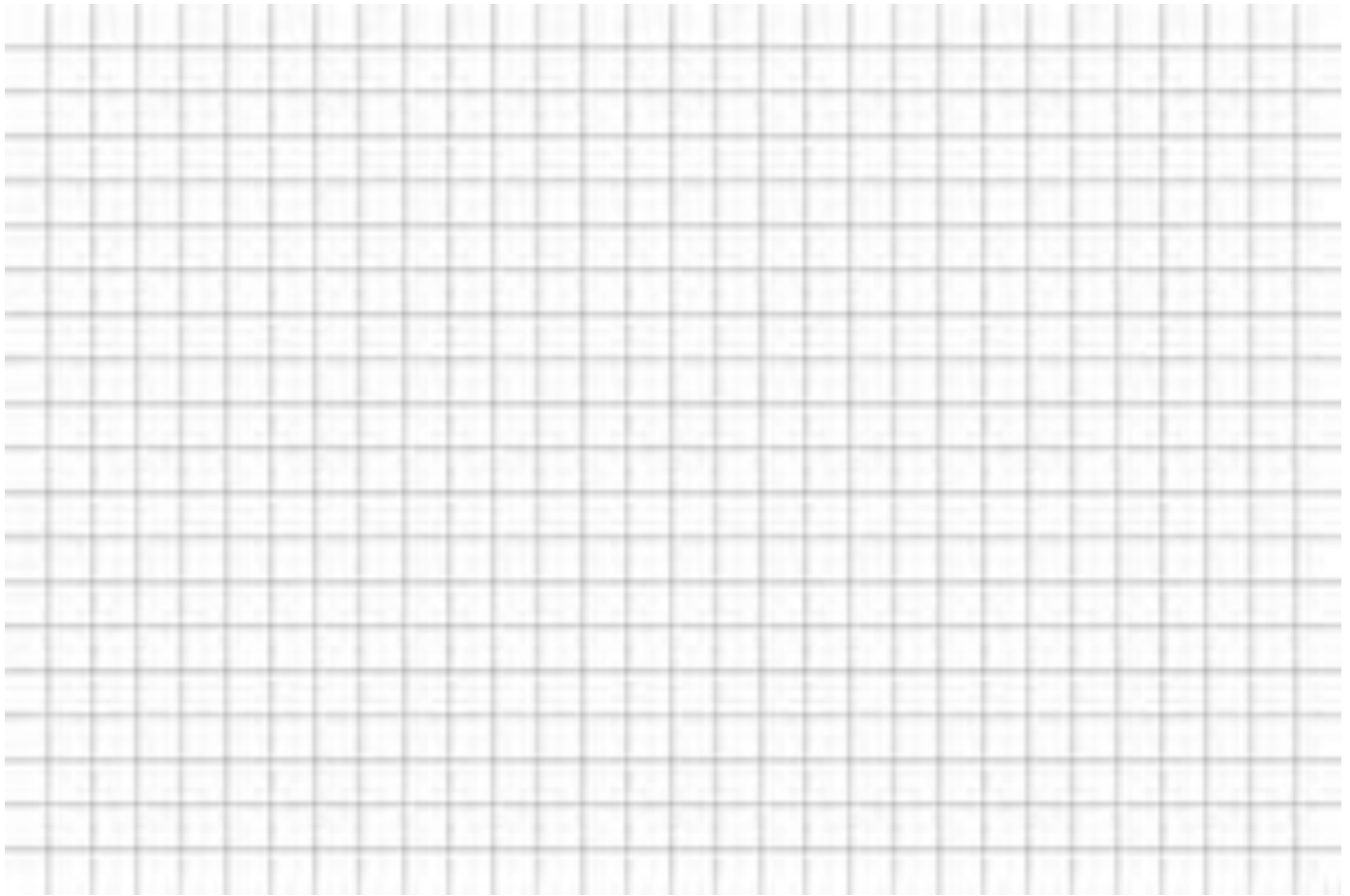
2) Select a metal to study. Develop a procedure for determining the characteristics of the light necessary to liberate electrons from the metal. Write your procedure and your conclusions below.

3) Based on your chosen metal answer the following questions

a) At what wavelengths was it first possible to remove electrons?

b) What wavelengths were most effective?

c) What does intensity change?



Best fit equation for your graph –

Conclusion –

In 2-3 paragraphs explain your understanding of the photoelectric effect include a discussion on

- Intensity and wavelength of the incident light
- Wave model and its breakdown