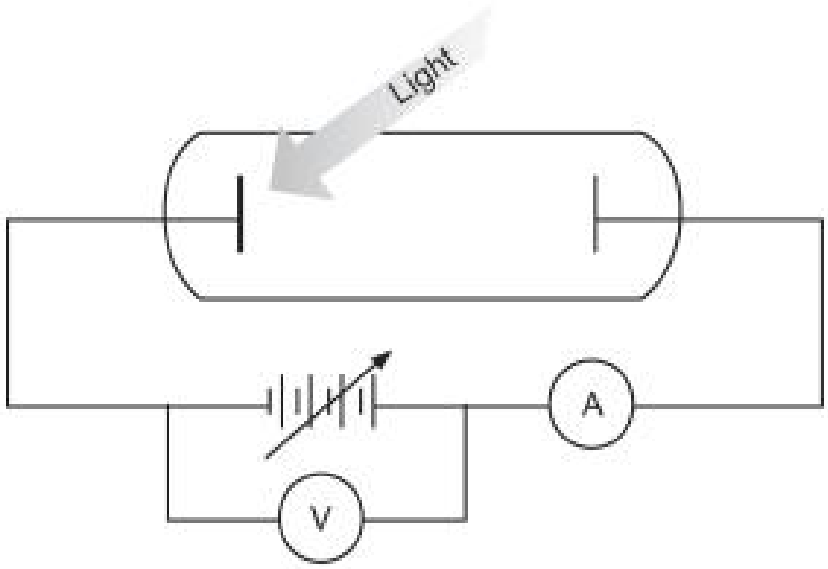
Question 2 **(4 marks)**

When light is shone on a metal plate, electrons may be emitted from the plate. This is called the 'photoelectric effect'. The apparatus below shows incident light of wavelength 450 nm striking a metal plate. The number of photons striking the plate per second can also be controlled by varying the brightness of the incident light. The current produced by the light is initially measured by the ammeter (A). Initially, the ammeter (A) reads a current. The stopping potential (V) is then adjusted until the ammeter reads 0 A.



Assume the frequency of the light remains above the threshold frequency of the metal. In the table below, describe what would happen to the initial reading on A and the final reading on V, if the following changes were made. Use the terms 'increase', 'decrease' or 'unchanged'.

	Change 1: wavelength is changed to 490 nm. Photons/second remains unchanged.	Change 2: wavelength is changed to 400 nm. Photons/second is increased.
Initial A		
Final V		