In the photoelectic effect, why are some of the electrons moving faster than others?

A) They absorbed photons with larger energy

B) Some electrons are lighter than others

C) Some electrons had higher energy than others before absorbing a photon

D) Both A and C are correct and contribute to the effect

E) A, B and C are correct

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B) increases

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D) stops altogether

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At higher photon energies, electrons lower down can be excited, so there is a lot more electrons for the photons to 'chose' from. As a result, more photons will be absorbed.

When we turn on a retarding voltage the current decreases because

A) a smaller number of electrons is ejected from the metal

B) electrons are ejected from the metal with a smaller kinetic energy

C) electrons are crossing the space between the electrodes slower

D) not all the electrons can make it all the way to the other electrode

E) the battery emits electrons going the other way

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If we apply enough voltage, the current will stop.
What will happen if we apply the voltage the other way?

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The voltage will not affect how many electrons are ejected, so the current cannot increase any more.

Metal A has a work function 1eV higher than Metal B. The minimum frequency of light necessary to eject electrons for metal A is

A) 1eV/h higher than for metal B

B) 1eV/h lower than for metal B

C) 1V/h higher than for metal B

D) 1V/h lower than for metal B

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Higher work function means higher energy needed, therefore a higher frequency of photons needed to eject electrons.

eV/h has the right units for a frequency. V/h does not. eV is a unit of energy.