

Solutions

Each answer shows the steps, then the **result**.

2.1

- light ejecting electrons from the surface of a metal

2.2

- the minimum energy needed to free an electron from the metal

2.3

- $KE_{max} = hf - \phi = 5.0 - 2.0 = 3.0 \text{ eV}$

3.1 A

3.2 B

3.3

(a)

- $KE_{max} = 4.0 - 2.5 = 1.5 \text{ eV}$

(b)

- each photon has enough energy on its own to free an electron, so even a few photons (dim light) eject some — brightness only changes how many