64. (a) Setting $\lambda = h/p = h/\sqrt{(E/c)^2 - m_e^2c^2}$, we solve for $K = E - m_ec^2$:

$$\begin{aligned} K &= \sqrt{\left(\frac{hc}{\lambda}\right)^2 + m_e^2c^4} - m_ec^2 \\ &= \sqrt{\left(\frac{1240\,\mathrm{eV\cdot nm}}{10 \times 10^{-3}\,\mathrm{nm}}\right)^2 + (0.511\,\mathrm{MeV})^2} - 0.511\,\mathrm{MeV} \\ &= 0.015\,\mathrm{MeV} = 15\ \mathrm{keV}\ . \end{aligned}$$

(b) Using the result of problem 3,

$$E = \frac{hc}{\lambda} = \frac{1240\,\mathrm{eV\cdot nm}}{10 \times 10^{-3}\,\mathrm{nm}} = 1.2 \times 10^5\,\mathrm{eV} = 120\ \mathrm{keV}\ .$$

(c) The electron microscope is more suitable, as the required energy of the electrons is much less than that of the photons.