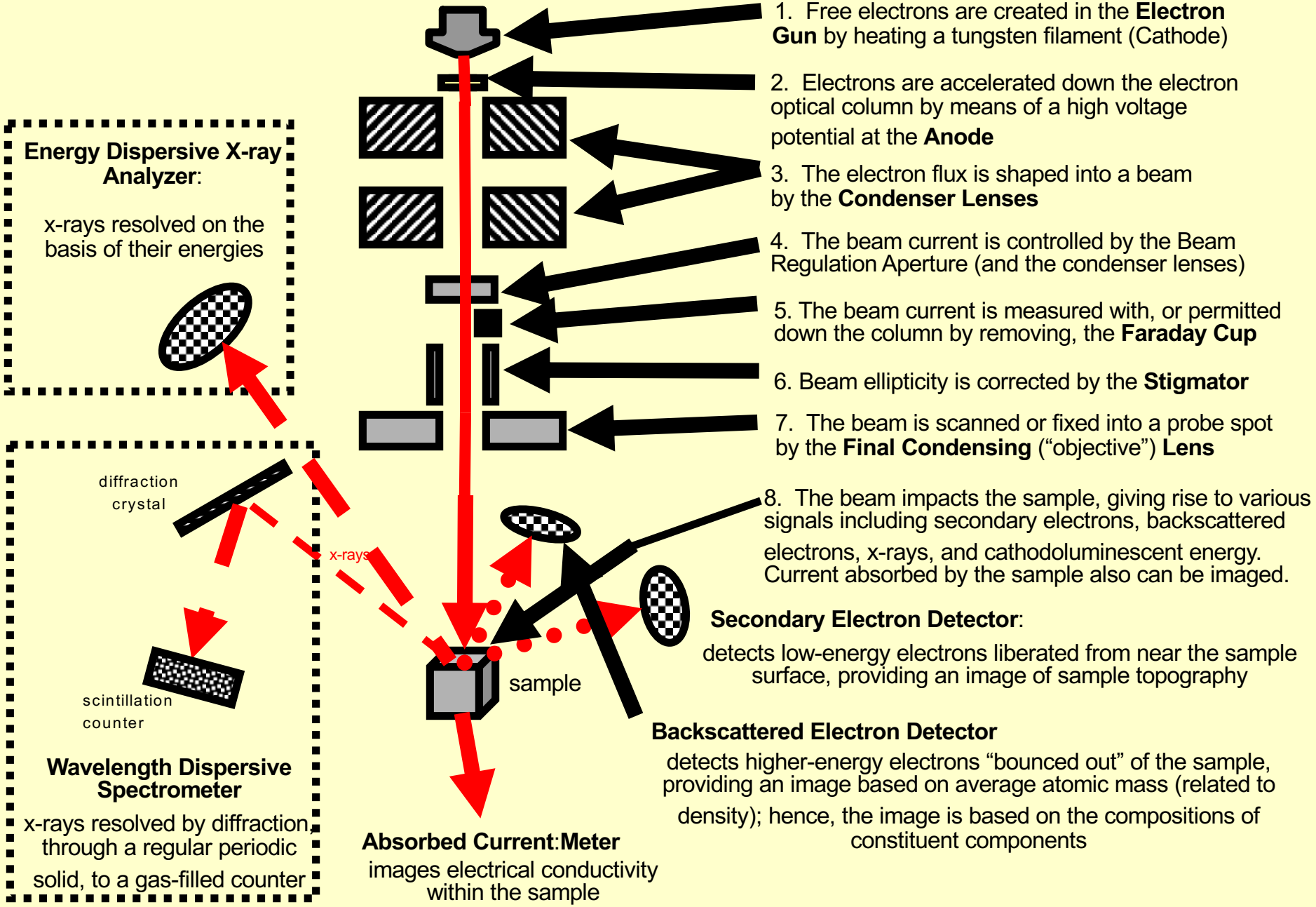
1. Free electrons are created in the **Electron Gun** by heating a tungsten filament (Cathode)
2. Electrons are accelerated down the electron optical column by means of a high voltage potential at the **Anode**
3. The electron flux is shaped into a beam by the **Condenser Lenses**
4. The beam current is controlled by the Beam Regulation Aperture (and the condenser lenses)
5. The beam current is measured with, or permitted down the column by removing, the **Faraday Cup**
6. Beam ellipticity is corrected by the **Stigmator**
7. The beam is scanned or fixed into a probe spot by the **Final Condensing** ("objective") **Lens**
8. The beam impacts the sample, giving rise to various signals including secondary electrons, backscattered electrons, x-rays, and cathodoluminescent energy. Current absorbed by the sample also can be imaged.
Energy Dispersive X-ray Analyzer:
x-rays resolved on the basis of their energies
diffraction crystal
x-rays
scintillation counter
Wavelength Dispersive Spectrometer
x-rays resolved by diffraction through a regular periodic solid, to a gas-filled counter
sample
Secondary Electron Detector:
detects low-energy electrons liberated from near the sample surface, providing an image of sample topography
Backscattered Electron Detector
detects higher-energy electrons "bounced out" of the sample, providing an image based on average atomic mass (related to density); hence, the image is based on the compositions of constituent components
Absorbed Current:**Meter**
images electrical conductivity within the sample