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| **Light microscope** | **Electron microscope** |
| * Uses light and a series of lenses to magnify the subject * Able to view living cells in full colour * Quick setup time and option to stain specimens to highlight features of a cell * Different specimens require different preparation techniques for example: * - Whole mounts for small specimens * - Smear mounts for cells suspended in fluid * - Sectional mounts using paraffin wax to surround very thin specimens cutting it into slices * After preparation light travels through the specimens and into the lens * Uses a condenser lens to control light source | * Uses a beam of electrons compared to light, to view objects * Allows specimens to be pictured in greater detail * The microscope produces a narrow beam of electrons * This beam is maintained by electromagnetic lens which is a system of coils that surround the microscope and emit an electromagnetic * Electrons strike the specimen and either pass through it or are scattered * High resolution and a greater field of depth than a light microscope but only produce black and white images * Colour is can be added later to highlight any important features of the specimen |