

How does a mass spectrometer work?

A mass spectrometer measures the mass of individual atoms and molecules, which enables scientists to identify them.

Inside a mass spectrometer, a sample of test material is converted into a high-speed stream of electrically charged particles. The stream is then bent by a magnetic field; heavy, slow moving particles (**A**) and lighter, fast-moving particles (**B**) crash to either side, so only particles of a certain mass (**C**) reach a detector. By changing the magnetic field strength, the instrument can measure particles of varying masses. The results are reported as a graph, in which spikes show the relative abundance in the sample of particles of different masses.

