Sample is lowered into a magnet where it is spun and hit with electromagnetic pulses in the radio frequency (RF) range. The RF frequency is tuned to the specific nucleus you are studying (e.g. H-1 or C-13).

Nuclei absorb energy from the pulse and go from a lower energy state to a higher energy state.

After the pulse, the nuclei relax back to the lower energy level, releasing energy.

The instrument repeats the scan multiple times to maximize signal and minimize noise.

NMR instrument performs a Fourier transform on the signals to show each individual RF frequency that made up the composite signal.

The frequencies make up your NMR Spectrum.